```
wolbachia p
homo sapien
latrodectus
                                      treponema p
anopheles g
anopheles g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IGGVPQEAQYDAAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKEE 180
        WLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVKG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMWESEIAEGISNPLHADVDNNPVKG 255
                                                                                     m mus musculu
                                                                                                        homo sapien
drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   I GGVPQEAQYDAAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LERKSPTPEPKVEDDEDLPPTLPPRTFSGEGYDDVGVSMPTVSRGIYQPPIVQDSNLYSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PSGDIQDQSQQDQQEQDQQQQAVGGAVGNSPIERRVAAPESEDLYTVIIPKGKRTAAPI
                                                                                                                                                                                                                                                                                                                                                                                    A McBride J.W., Comer J.E., Walker D.H.;

McBride J.W., Comer J.E., Walker D.H.;

Movel Immunoreactive Glycoprotein Orthologs of Ehrlichia spp.";

L Ann. N. Y. Acad. Sci. 0:0-0(2003).

R EMBL, AF252298; AAK01145.2; -.

R EMBL, PF00023; ANK.

INTERPO, IPR002110; ANK.

R PINTS; PR01415; ANKXRIN.

R PROSTIE; PS50088; ANK REPEAT; 8.

PROSITE; PS50088; ANK REPEAT; 8.

PROSITE; PS50297; ANK REP REGION; 1.

SEQUENCE 1421 AA; 152990 MW; 6063E9057A375D40 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                       MEDLINE=20579049; PubMed=11136790;
MCBride J.W., Corstvet R.E., Breitschwerdt E.B., Walker D.H.;
"Immunodiagnosis of Ehrlichia canis infection with recombinant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1421;
                                                                                                                                                                                                                                                               Ehrlichia canis.
Bacteria; Proteobacteria; Alphaproteobacteria; Rickettsiales;
Anaplasmataceae; Ehrlichia.
NCBI_TaxID=944;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                O9APN7;
01-UJN-2001 (TrEMBLrel. 17, Created)
01-MAR-2004 (TrEMBLrel. 26, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 4310; DB 2;
100.0%; Pred. No. 1.1e-228;
ive 0; Mismatches 0;
                                                                                                                                                        ALIGNMENTS
                  Q9UFA4
Q9UFA4
Q1ATA LATWA
Q1PEZ8
Q7OKD3
Q2V4B1
Q24241
Q8BZ25
Q61304
Q61304
Q61372
Q9UZ72
Q9UZ72
                                                                                                                                                                                                                                                                                                                                                              Clin. Microbiol. 39:315-322(2001)
                                                                                                                                                                                                                                                       200 kDa immunoreactive glycoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                      PRELIMINARY;
1762
542
791
1401
1145
11145
11145
11549
1549
1549
1745
1098
1159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 831; Conserv
                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                     proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                196
                                                                                                                                                                                                       Q9APN7
                                                                                                                                                                                    RESULT 1
Q9APN7
 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    homo sapien
treponema d
mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      anopheles g
anopheles g
homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                           ehrlichia c
                                                                                                                                                                                                                                                                                                                                                                                                                                          homo sapien
homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mus musculu
mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                homo sapien
rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                       fugu rubrip
                                                                                                                                                                                                                                                                                                                                                                                                                                 homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                             homo sapien
caenorhabdi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            xenopus lae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  brachydanio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    արթ⊸արթշոյո
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mus musculu
                                                                         (without alignments)
2417.828 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   drosophila
drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bos taurus
                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                               February 26, 2005, 18:36:46; Search time 176 Seconds
                                                                                                                      1 PSGDIQDQSQQDQQEQDQQQ.....DRGADINLDGDHNILFDQCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     09grv5
061302
002357
002357
012355
09180
06zt57
09vmr4
07smr4
07smr4
07smr4
                                                                                                                                                                                                                                                                                                                                                                                                                     Q8ax92
O15084
Q13768
Q99407
P16157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q01484
Q6nri3
Q8n8a2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q73j83
Q8c8r3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q7t1g6
P97582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q8c036
Q8bti7
Q7qav8
Q7q810
Q13484
                                                                                                                                                                                                                                                                                                                                                                                                             09apn7
        GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                          al number of hits satisfying chosen parameters:
                                                                                                                                                                        1612378 segs, 512079187 residues
                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                    QBAX92
ANZB HUMAN
Q13768
Q99407
ANKI HUMAN
Q9GRV5
Q61307
ANKI MOUSE
Q61307
ANKI HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0723L5
070511
ANK2 HUMAN
                                                                                                                                                                                                                                         Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                             protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q6ZT57
Q8VC68
Q9VMR4
Q7XTN8
Q7Z3G4
                                                                                                                                           BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ANK2 HU
QENRI3
QBNBA2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q73J83
Q8C8R3
Q7T1G6
P97582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q8C036
Q8BTI7
Q7QAV8
Q7Q8L0
Q13484
                                                                                                                                                                                                                                                                                UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:*
                                                                                                                                                                                                               seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                               Query
Match Length DB
                                                                                                     US-10-701-038-2
4310
                                                                                                                                                                                                                                                                                                                                                                                                                              1059
1719
1856
1880
1913
1848
1862
1943
1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1726
1619
1712
1712
1863
2622
3924
692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1441
                 Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                      390.5
390.5
390.5
387.5
381.5
378.5
377.5
377.5
371.5
                                                                                                     Title:
Perfect score:
                                                                                                                                            Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   370.5
369.5
368.5
368.5
365.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             358.5
358.5
358
355.5
354.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           354
353.5
350.5
350
                                                                                                                                                                                                              Minimum DB
Maximum DB
                                            OM protein
                                                                                                                         Sequence:
                                                                                                                                                                        Searched:
                                                                                                                                                                                                                                                                                  Database
                                                               Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Result
                                                                                                                                                                                                                                                                                                                                                                                         Š.
```

ö

120

셤

셤 ઠે 셤

ઠે

a

ઠે

엄

ò

```
LHAAAFSDHVECVSLLLSHGAQANV-ADTRLCRTPLMMAALNGQTNTVEVLVNSAKVDLT 1006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             815
                                                                                                                                                    367
                                                                                                                                                                                              227
                                                                                                                                                                                                                                            413
                                                                                                                                                                                                                                                                                       279
                                                                                                                                                                                                                                                                                                                                    467
                                                                                                                                                                                                                                                                                                                                                                                  -----LCMEKT 309
                                                                                                                                                                                                                                                                                                                                                                                                                               521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LTHGAHINMQSKDNRTPLHMAATHGRFSCS----QALIQNGADIDCEDKNRTALHIAAR 577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     696 IDQRGCNPLHYAAAADTEGKGHQDCVALLLHHGASPMTRDYAHKKTAIHAAAMNGHQECL 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | | | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | ::: | 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDIN 712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORMGSDKNTVLHYAISKGDSFLVQKILAHTGVD--VNCENNLGQTPLHLAVEGGDPKIVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 534 LLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFB
              KVEDDEDLPPTLPPRTFSGEGYDDVGV-----SMPTVSRGIYQPPIVQDSNLYSSIG
                                                                                                                                        LSGARVNAXDNKWLT---PLH----RAVAS----CSEDAVA----VLLKHSADVNARDKOW
                                                                                                                                                                                                                                                                                                                                                                                                              -----QRGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VTGQEECVEALLQRGANVCVKDIQGRSPLHLASACGRVGALGALLQASSTSHAH-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SENIIGSPNAKFLOHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDS-LHLPSERGYNA
                                                                                                                                                                                                 ------EMLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEGISN-
                                                                                                                                                                                                                                                                                            --PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKAL----GEVENDEGDLGANAY
                                                                                                                                                                                                                                                                                                                   KTD--FIDTANFANQSPLHIITQ--KPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ------VNDPDYFGNTI
                                             AHYAVKNIKNADLTLFINMLKASGADLINVRNVVGRAPIHVASSNGKANAVSGLVSCG----
                                                                                                      GVPQEAQYDAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----IDVNSQDVNGDTPLHIAVEGGSMETVLAVLN-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             --LTDNQGYTPLHWACYNGT-----GYDSCVEVLLDQEVFKQ-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIV 807
                                                                                                                                                                                                                                                                                                                                                                                  NVLDSEGNLPLHHAAKN----CTGDKLK------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HLPPVILKGVMDHVKNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Rel. 40, (Rel. 40, I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---IKGN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AN28 HUMAN
015084;
16-0CT-2001
16-0CT-2001
05-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1066
                                                                                                                                                                                                                                                                                                                                                                                  280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                870
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   948
                                                                                                                                                                                                                                                 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         771
                                                                                                                                                      327
                                                                                                                                                                                                                                                                                                                                         414
                                                                                                                                                                                                                                                                                                                                                                                                                                 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           486
                   7
                                                                                                           123
                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                            228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AN28 HUMAN
ID AN28 HI
AC 015084
DT 16-OCT
DT 16-OCT
DT 05-JUL
                                             셤
                                                                                                                                               g
                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                      ò
                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                      315
                                                                                                                                                                              420
                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                            555
                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVN 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  795
                                                                                 AKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAKNCTGD
                                                                                                                                                                                                   GADLANVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETV
                                                                                                                                                                                                                                                                                                                                                                                             LAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMODRSGGELVNLGDFESENILGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCTGD
                                                                                                                                                                              HHAVEHL PPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKAS
                                                                                                                                                                                                                                                                      GADLINVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETV
                                                                                                                                                                                                                                                                                                                                                              LAVINQRGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYK
                                                                                                                                                                                                                                                                                                                                                                                                                                                         GFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAR.-2003 (TrEMBLrel. 23, Created)
01-MAR.-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Hypothetical protein.
Fryau rubripes (Japanese pufferfish) (Takifugu rubripes).
Enkaryota: Metazoa; Chordata; Craniata; Vertebrata; Enteleostomi; Actinopterygii; Neopterygii; Teleostei; Buteleostei; Neoteleostei; Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodoutiformes; Tetradoutoidea; Tetraodoutidae; Takifugu.
NCBL TaxID=31033;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADINLDGDHNILFDQCL 831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels 314;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1179;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS50088; ANK REPEAT; 16.
ROSITE; PS50297; ANK REP REGION; 1.
ANK repeat; Hypothetical protein.
SEQUENCE 1179 AA; 127675 WW; ABFF2F2B2CC14EF2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 10.3%; Score 442; DB 2; L. Best Local Similarity 22.5%; Pred. No. 1.2e-15; Matches 211; Conservative 102; Mismatches 310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ź
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT; 1179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kosan C., Kunz J.;
Submitted (JUL-2002) to the
EMBL; AF527754; AAO15006.1;
HSSP; P55271; 1D9S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR01415; ANKYRIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR002110; ANK. Pfam; PF00023; Ank; 23.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SMART; SM00248; ANK; 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          964
                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                            496
                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                              361
                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q8AX92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                08AX92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 2
QBAX92
ID QBAX
AC QBAX
DT 01-M
```

8

유 δ ద ઠે 셤

셤

ò

ò

```
GNGADVNMKSKDGKTPLHMTALHGRFSRSQTII-QSGAVIDCEDKNGNTPLH1AARYGHE 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               : :: :: | | | :: | | | 457 YQCLFALVGSGASVNDLDERGCTFLHYAATSDTDGKCLEYLLRNDANPGIRDKQGYNAVH 516
                                 MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEG 272
                                                                                           273 DLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKP 332
                                                                                                                                                                                                                                                                                                                                     GVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLA 571
                                                                                                                                                                                                                                                                                                                                                                   359 LLINTLITS-----GADTAKRGI-----HGMFPLHLAALSGFSD----CCRKLLSSGFDID 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .-----KNTVLHYAISKG 730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DSFLVQKILAH----TGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNG 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HSECLRILIGNAEPONAVDIODGN--GOTPLMLSVINGHTDCVYSLLNKGANVDAKDKWG 692
 AYLGDAEIIELLILSGARVNAKDSKWLT---PLH----RAVASCS-----EEAVQVLL 100
                                                                                                                                                                                  191 HIEVVKL--LVSHGAEVTCKDKKSYTPLHAAAS-----SGMISVVKYLLDLGVDMNEP 241
                                                                                                                                                                                                                DYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIH-VASSNGKANAVSGLV 451
                                                                                                                                                                                                                                                                                                                                                                                                 TI----RAALMODRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSN 627
                                                                                                                                                                                                                                                                                                                                                                                                                               TPDDFGRTCLHAAAAGGNL----ECLNLLLNTGADF---NKKDKFGRSPLHYAAANCN 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----LPSERGYNAMQ 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VAALFGDKEAVKMLAKSAKPSDLNFKTS-----ATPTPLNLACLRGDNEVVRGL 703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  576 V-QSLLDLDVRNSSGRTPLDLAAFKGHVECVDVLINQGASILVKDYILKRTPIHAAATNG 634
                                                                                                                                                                                                                                DCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP
                                                                                                                                                                                                                                                                           452 SCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lux S.E., John K.M., Bennett V.; "Analysis of cDNA for human erythrocyte ankyrin indicates a repeated structure with homology to tissue-differentiation and cell-cycle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Last sequence update)
Last annotation update)
                                                     628 HNVMKDILN---FVGD-----SLH-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1719 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RSVLSSAIVPGRKEKGVLGIVNKLLDRGA 815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KTALHRGAVTGHEE-----CVDALLOHGA 716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-Hematopoietic;
MEDLINE-90158830; PubMed=2137557;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1996 (TrEMBLrel. 01, 01-NOV-1996 (TrEMBLrel. 01, 01-MAR-2004 (TrEMBLrel. 26, Alt. ankyrin (Variant 2.2). Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VGQHGIDINQRMGSD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9606;
                                 216
                                                                                                                                                      333
                                                                                                                                                                                                               393
                                                                                                                                                                                                                                             242
                                                                                                                                                                                                                                                                                                                                     512
                                                                                                                                                                                                                                                                                                                                                                                                 572
                                                                                                                                                                                                                                                                                                                                                                                                                               406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         787
                                                                                                                        140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                013768
                                                            셤
                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                              ठ
                                                                                          ઠે
                                                                                                                 g
                                                                                                                                                    δ
                                                                                                                                                                                 셤
                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                               Nagase T., Ishikawa K.-I., Nakajima D., Ohira M., Seki N., Miyajima N., Tanaka A., Kotani H., Nomura N., Ohara O.; "Prediction of the coding sequences of unidentified human genes. VII. The complete sequences of 100 new CDNA clones from brain which can code for large proteins in vitro."; DNA Res. 4:141-150(1997).
                                          Eukaryota, 'Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C1F55E6CFE494770 CRC64;
                                                                                                                                                                                                                                      SIMILARITY: Contains at least 27 ANK repeats.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 421; DB 1;
Pred. No. 1.5e-14;
Ankyrin repeat domain protein 28 (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11122...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; P$50297; ANK_REP_REGION; 1. PROSITE; P$50088; ANK_REPEAT; 24. ANK_repeat; Repeat. 1 1
                                                                                                                    TISSUE=Brain;
MEDLINE=97349984; PubMed=9205841;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Name=ANKRD28; Synonyms=KIAA0379;
Yomo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  113465 MW;
                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AB002377; BAA20833.2; -. HSSP; P80144; 2MYO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                            IntAct; 015084; -.
Genew; HGNG:29024; ANKRD28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; PPR002110; ANK. Pfam; PF00023; Ank; 28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR01415; ANKYRIN.
SMART; SM00248; ANK; 28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 931 9.
1059 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 189; Conserv
                                                                                                     SEQUENCE FROM N.A.
                                                                        NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REPEAT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REPĒAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REPEAT
```

Conservative 101;

Nature 344:36-42(1990). EMBL; X16609; CAA34611.1;

control proteins.";

215

Mismatches 269; Indels 190; Gaps

```
GO; GO:0016323; C:basolateral plasma membrane; ISS. GO; GO:0008093; F:cytoskeletral adaptor activity; ISS. GO; GO:0019999; F:enxyme binding; ISS. GO; GO:0030507; F:spectrin binding; ISS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               z72:19220-19228(1997)
                                                                                                                                                                                                                             Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ENEL; U50092; AAB47805.1; JOINED. ENEL; U50092; AAB47805.1; JOINED. ENEL; U50094; AAB47805.1; JOINED. ENEL; U50095; AAB47805.1; JOINED. ENEL; U50095; AAB47805.1; JOINED. ENEL; U50097; AAB47805.1; JOINED. ENEL; U50099; AAB47805.1; JOINED. ENEL; U50099; AAB47805.1; JOINED. ENEL; U50103; AAB47805.1; JOINED. ENEL; U50103; AAB47805.1; JOINED. ENEL; U50103; AAB47805.1; JOINED. ENEL; U50102; AAB47805.1; JOINED. ENEL; U50102; AAB47805.1; JOINED. ENEL; U50103; AAB47805.1; JOINED. ENEL; U50104; AAB47805.1; JOINED. ENEL; U50104; AAB47805.1; JOINED. ENEL; U50104; AAB47805.1; JOINED. ENEL; U50104; AAB47805.1; JOINED. ENEL; U50105; AAB47805.1; JOINED. ENEL; U50105; AAB47805.1; JOINED. ENEL; U50106; AAB47805.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; US0126; AAB47805.1; JOINED.
EMBL; US0127; AAB47805.1; JOINED.
EMBL; US0129; AAB47805.1; JOINED.
EMBL; US0129; AAB47805.1; JOINED.
EMBL; US0130; AAB47805.1; JOINED.
EMBL; US0131; AAB47805.1; JOINED.
EMBL; US0131; AAB47805.1; JOINED.
HSSP; P16157; 1N11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB47805.1; JOINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US0123; AAB47805.1; JOINED.
US0124; AAB47805.1; JOINED.
US0125; AAB47805.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOINED
                                                                                                                                                                                                                        01-MAY-1997 (TrEMBLrel. 03, 01-MAY-1997 (TrEMBLrel. 03, 01-MAR-2004 (TrEMBLrel. 26,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAB47805.1; J
AAB47805.1; J
AAB47805.1; J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAB47805.1;
AAB47805.1;
AAB47805.1;
AAB47805.1;
                                                                                                                                                                                PRELIMINARY;
                       821 GDHNILFDQ 829
                                                                 800 DICHEMSFPE 808
                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US0106; US0107; US0108; US0108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US0114; US0115; 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US0117; R
US0118; R
US0119; R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US0121; US0122;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US0109;
US0110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          U50112;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    U50113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   U50116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             U50120;
                                                                                                                                                                                                                                                                                                                    Name=ANK1;
                                                                                                                                                                                099407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EWBL)

EWBL)
                                                                                                                                 RESULT 5
Q99407
                                                               셤
                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |:: :| |: :: | |: 256 RLLLDRGAQIETKTKDEL------TPLHCAARNGHVRISEILLDHGAPIQA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301 KTKNGLSPIHMAAQGDHLD--CVRLLLQYDAEIDDI-----TLD---HLTPLHVAAHCG 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              350 HHRVAKVLLDKGAKPNSRALN--GFTPLHIACKKUHVKVMELLLKTGASID--AVTESGL 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     406 TPLHVASFWGHLDIVKNLLQRGASPNVSNVK-----VETPLHMAARAGHTEVAKYLLQNK 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |||| | :|||||:| :| | ||||| so7 immareghvetvlall-ekeasqacmtkkgftplhvaakygkvrvaelllerdahpnaa s65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----GA---- 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          242 --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    299 GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               461 ------AKVNAKAKDDQTPLHCAARIGHTNMVKLLLENNANPNLATTAGHTP 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     526 GEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE 585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             586 LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    646 SERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     689 KHGVMVDATTRMG---YTPLHVASHYGNIKLVKFLLQHQ-ADVNAKTKLGYSPLHQAAQQ 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             566 GKN------GLTPLHVAVHHNNLDIVKL---------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels 149; Gaps
                GO:0016323; C:basolateral plasma membrane; ISS.
GO:000895; C:cytoskeletal adaptor activity; ISS.
GO:0019899; P:cytoskeletal adaptor activity; ISS.
GO:0019899; P:enzyme binding; ISS.
GO:0030507; P:spectrin binding; ISS.
GO:0005097; P:exceytosis; NSS.
GO:0006897; P:exceytosis; NSS.
GO:00045199; P:maintenance of epithelial cell polarity; ISS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1719;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1719 AA; 189010 MW; F63465D16D975CBF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
9.1%; Score 390.5; DB 2;
Best Local Similarity 26.0%; Pred. No. 1.5e-12;
Matches 174; Conservative 100; Mismatches 246;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE; PS50088; ANK REPEAT; 20.
PROSITE; PS50297; ANK REP REGION; 1.
PROSITE; PS50017; DEATH DOMAIN; 1.
                                                                                                                                                                                              INCERPOS I PRODZIO ANK.
INCERPOS I PRODZIO ANK.
INCERPOS I PRODO1809; DEATH.
INCERPOS I PRODO96; ZUS.
PEAM; PROD023; ANK; 23.
PEAM; PROD0531; DEATH, 1.
PEAM; PROD0531; DEATH, 1.
PEAM; PROD0531; DEATH, 1.
PRINTS; PROJ415; ANKYRIN.
SWART; SMO0246; ANK; 23.
SWART; SMO0246; ZUS; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ANK repeat.
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       £ # ₹ 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
```

```
SEQUENCE FROM N.A.
MEDLINE-97382244; PubMed=9235914; DOI=10.1074/jbc.272.31.19220;
MEDLINE-97382244; PubMed=9235914; DOI=10.1074/jbc.272.31.19220;
Gallagher P.G., Tse W.T., Scarpa A.L., Lux S.E., Forget B.G.;
"Structure and organization of the human ankyrin-1 gene. Basis for complexity of pre-mRNA processing.";
J. Biol. Chem. 272:19220-19228(1997).
                                                                                                                                                                                                                                                                                                              Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                               Last sequence update)
Last annotation update)
PRT; 1856 AA
```

```
HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <u>-</u>
                                                                                                                                                                                                                                                                                                                                                 31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                268 KTKNGLSPIHWAAQGBHLD--CVRLilQYDAEIDDI-----TLD---HLTPLHVAAHCG 316
                                                                                                                                                                                                                                                                                                                                                                                                               223 RLLLDRGAQIETKTKDEL------TPLHCAARNGHVRISEILLDHGAPIQA 267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TPLHVASFMGHLPIVKNLLQRGASPNVSNVK-----VETPLHMAARAGHTBVAKYLLQNK 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  656 KHGVMVDATTRMG---YTPLHVASHYGNIKLVKFLLQHQ-ADVNAKTKLGYSPLHQAAQQ 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            299 GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LLPRG------GSP----HSPAWN-GYTPLHIAAKONOVEVARSLLOY-GGSANAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GKN-----GLTPLHVAVHHNNLDIVKL---------GLTPLHVAVHHNNLDIVKL
                                                                                                                                                                                                                                                                                                              Match 9.1%; Score 390.5; DB 2; Length 1856; Local Similarity 26.0%; Pred. No. 1.6e-12; les 174; Conservative 100; Mismatches 246; Indels 149; Gaps
GO:0005200, F:structural constituent of cytoskeleton, ISS. GO:0045199; P:maintenance of epithelial cell polarity; ISS
                                                                                                                                                                                                                                                                                                                                                                             194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----
                                                                                                                                                                                                                                                                               1856 AA; 203465 MW; 4A4E3A794DD6401F CRC64;
                                                                                                                                                                                                                                 REGION; 1.
                              InterPro; IPR002110; ANK.
InterPro; IPR00488; Deach.
InterPro; IPR0011029; DEATH like.
InterPro; IPR000906; ZUS.
Pfam; PF00023; Ank; 22.
Pfam; PF00531; Deach; 1.
Pfam; PF00791; ZUS; 1.
PRINTS; PR01415; ANKYRIN.
                                                                                                                                                                                                           PROSITE; PS50088; ANK REPEAT; 20. PROSITE; PS50297; ANK REP REGION; PROSITE; PS50017; DEATH DOMAIN; 1.
                                                                                                                                                             SMART; SM00248; ANK; 22.
SMART; SM00005; DEATH; 1.
SMART; SM00218; ZU5; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | : | :
DKHRMSFPE 775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GDHNILFDQ 829
                                                                                                                                                                                                                                                                  repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          821
                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                             242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       767
                                                                                                                                                                                                                                                                                                              ery Match
                                                                                                                                                                                                                                                                                                                                est Loca
Matches
ઠ
                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          엽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ሯ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          쇰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                            Lux S.E., John K.M., Bennett V., "Analysis of cDNA for human erythrocyte ankyrin indicates a repeated structure with homology to tissue-differentiation and cell-cycle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  spherocytosis
                                                                                                              Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DISEASE: Defects in ANK1 are a cause of hereditary spherocy (HS) [MIM:182900]. Inheritance can be autosomal dominant or
                                                                                                                                                                                                                                                                                                                 MEDLINE=90175370; PubMed=1689849; Lambert S., Yu H., Prchal J.T., Lawler J., Ruff P., Speicher Cheung M.C., Kan Y.W., Palek J.; Cheung M.C., Kan Y.W., Palek J.; Proby sequence for human erythrocyte ankyrin."; Proc. Natl. Acad. Sci. U.S.A. 87:1730-1734(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VSP_000265;
                                                                                                                                                                       SEQUENCE FROM N.A., PARTIAL SEQUENCE, AND VARIANTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Event=Alternative splicing; Named isoforms=3;
Comment=Additional isoforms seem to exist;
                                        01-APR-1990 (Rel. 14, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Ankyrin 1 (Brythrocyte ankyrin) (Ankyrin R).
1880 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IsoId=Pf6157-1; Sequence=Displayed;
Name=2; Synonyms=2.2;
IsoId=P16157-2; Sequence=VSP_000264,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Isold=P16157-3; Sequence=VSP 000266; PTM: Regulated by phosphorylation. PTM: Palmitoylated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY: Contains 23 ANK repeats. SIMILARITY: Contains 1 death domain.
PRT;
                                                                                                                                                                                     TISSUE-Hematopoietic;
MEDLINE-90158830; PubMed=2137557;
                          (Rel. 14, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; X16609; CAA34610.1; -. EMBL; M28880; AAA51732.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALTERNATIVE PRODUCTS:
                                                                                  Name=ANK1; Synonyms=ANK;
STANDARD;
                                                                                                                                                                                                                                                                         Nature 344:36-42(1990).
                                                                                                  (Human)
                                                                                                                                                                                                                                                             control proteins.";
                                                                                                                                                                                                                                                                                                                                                                                                      VARIANT HS ILE-462.
                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                            NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              гесеввіче.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         membrane.
                                                                                                  Homo sapiens
                          01-APR-1990
```

```
31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300 KTKNGLSPIHWAAQGDHLD--CVRLLLQYDABIDDI-----TLD---HLTPLHVAAHCG 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              405 TPLHVASFMGHLPIVKNLLQRGASPNVSNVK----VETPLHMAARAGHTEVAKYLLQNK 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LHIAVEGGSMETVLAVLNORGADVSVONNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GEDTVAKSLIMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE 585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     586 LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             255 RLLLDRGAQIETKTKDEL------TPLHCAARNGHVRISEILLDHGAPIQA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  299 GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SERGYNAMOVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG
                                                                                                                                                                                                                                                                                                                                                                                               194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----GA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK
                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                    Indels 149;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           on 9.1%; Score 390.5; DB 1; Length 1880; Similarity 26.0%; Pred. No. 1.7e-12;
                                                                                                                                                                                                                                                        MW; 1C5F5E7EFD1CD428 CRC64;
                                                                                      /FTId=VAR_000600.
D -> N (in Duesseldorf).
FTId=VAR_000602.
R -> D.
FTId=VAR_000603.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                         Best Local Similarity 26.0%; Pred. No. 1.7e-12;
Matches 174; Conservative 100; Mismatches 246;
                                                                                                                                                                                                          A -> S (in Ref. 2)
V -> I (in Ref. 2)
                          3 -> D.
FTId=VAR_000601
FTId=VAR_000599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT; 1913 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (TrEMBLrel. 16, (TrEMBLrel. 16, I
                                                                                                                                                                                                                                     1545 1545
1880 AA; 206145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                               229
                                                                     1391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              821 GDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DKHRMSPPE 807
                                                                                                                   1591
                                                                                                                                                                 1698
                                                                     1391
                                                                                                                   1591
                                                                                                                                                                                                               229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9GRV5;
Q9GRV5;
01-MAR-2001 (
01-MAR-2004 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       688
                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                               CONFLICT
                                                                                                                                                                                                                                       CONFLICT
                        VARIANT
                                                                     VARIANT
                                                                                                                   VARIANT
                                                                                                                                                                 VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 7
Q9GRV5
    21111111118
                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                44446
                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -> ELRGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     89 kDa domain; anion exchange processing domain. 62 kDa domain; spectrin binding domain. 55 kDa regulatory domain; regulates the binding of ankyrin to spectrin and the band 3 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TVEGPLEDPSELEVDIDYFMKHSKDHTSTPNP -> EL.
GLQPDLIEGRKGAQIVKRASLKRGKQ (in isoform
                                                                                                                                                                                                                                       Therepro; IPR002110; ANK.

InterPro; IPR002110; ANK.

InterPro; IPR001210; Death.

InterPro; IPR001029; DEATH_like.

INTERPRO; INTER
                                                                                           MIM; 182900; -: G. basolateral plasma membrane; NAS. GO; GO:0016337 F: Cytoskeletal adaptor activity; TAS. GO; GO:0019899; F: enzyme binding; TAS. GO; GO:0030507; F: spectrin binding; NAS. GO: GO:0005200; F: structural constituent of cytoskeleton; TAS. GO; GO:0045199; P: maintenance of epithelial cell polarity; TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /FTId=VSP_000264.
H -> D (in isoform 2).
/FTId=VSP_000265.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (in isoform 2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FIId=VAR 000596.

-> H (in Brueggen)

FIId=VAR 000597.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FTIG=VSP_000266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FTIG=VAR 000595.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           V -> A.
/FTId=VAR_000598.
D -> E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Missing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Death.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ANK 4. 4 ANK 4. 4 ANK 4. 4 ANK 4. 4 ANK 6. 5 ANK 7. 7 ANK 112 ANK 113 ANK 113 ANK 114 ANK 115 ANK 115 ANK 115 ANK 115 ANK 115 ANK 115 ANK 22 A
  PIR; A35049, A35049.
PIR; S08275; SJHUK.
PDB; 1N11; X-ray; A=390-826.
Genew; HGNC:492; ANKI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          761
794
1486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          827
1382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /ARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /ARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REPEAT
REPEAT
REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REPEAT
REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REPEAT
REPEAT
REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REPEAT
```

```
552 GSR-----DTFRVVRK--NYEKCHDLATIR----AALMQDRSGGELVNLGDFESENILG 599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : : |: | | | |: : | | 826 AGAVQIVQNKQSKN-GWSPLLEA-CARGHSGVANILLKHHARIDVFDEMGRTALHLAAFN 883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDK 719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     941 QIALHFAAKFGQLAVSQTLLA-LGANPNARDDKGQTPLHLAARDDFPDVVKLFLKMRNNN 999
                                                                                                                                                      ----KFGGSIRARTRDGSTLLHIAACSGHTSTALAFLKRGVPLFMPNKKGALGLHSAAAA 589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       492 SVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGG 551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  709 KISSKIGETPLQVAAKSCNFEAASMILKHLSEVLTQEQLKEHVNHRTNDGFTALHYAAEI 768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600 SPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALF 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720 NIVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKA---- 775
       478 VGRTPLHEVAEVGDQNMLKI--MFKLRADANIHDKEDKTPVHVAAERGDTSMVESLID-- 533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tarketure of sequence variation and multiple 5' and 3' ends are found among transcripts of the erythroid ankyrin gene.";

Lo Baol. Chem. 268:9533-9540(1993).

EMBL; X69063; CAA48801.1; -.

REMBL; X69063; CAA48801.1; -.

REMBL; X37771; S37771.

REMBL; X37771.

RE
                                                                                                                                                                                                                                                                                                                                                                                    -----SQD----SQD----VNGDTPLHIAVEGGSMETVLAVLNQRGADV
                                                                                                                                                                                                                                 -PN----MLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVN-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Name-Ankl; Synonyms-Ank-1;
Nus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                               --VKNKNADLTL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lux S.E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=C57BL/6J; TISSUE=Neural;
MEDLINE=93252825; PubMed=8486643;
Birkenmeier C.S., White R.A., Peters L.L., Hall B.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1000 RSVLTAIDHNGFTCAHIAAM-----KGSLAVVRELM 1030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            776 GAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKLL 811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1848 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
                                                                               380 KNSSEFQDLVNDPDYFGNTIAHYA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1996 (TrEMBLrel. 01, 01-NOV-1996 (TrEMBLrel. 01,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-NOV-1996 (TrEMBLrel. 01, 01-MAR-2004 (TrEMBLrel. 26,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Erythroid ankyrin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Barker J.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      099
                                                                                                                                                      534
                                                                                                                                                                                                                                                                                                                                                                                    459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q61302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q61302
                                                                           δ
                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCOORDINATION OF THE PROPERTY OF THE PROPERTY
                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | : : : | : : : : : | | | : | : | GENREPKSADEBIKRRRSG--GGILSRGIREMNKMVBELEQASEEPSTRKGILGTALKDM 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GKRTAAPILERKSPTPE-PKVEDDEDLPPTL------PPRTFSGEGYDDVGVSMPT 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               102 VSRGIYQPPIVQDSNLYSSIGG-----VPQEAQYDAAA---RAGGPRKFLYGPYTFSNG 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QEIMDFEFDTFWPDVRNAVLGNKEIKEEWLTTSGPVRDI-----ADR-----IV 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        258 HEEMSSE-DLAMADPQTKILYFAK-RDEWANVESEIETIKRSDFSMADNHGFTAFLLAVK 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----EILDIIFMNESEIAEGISNP--- 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      316 AGKDQIVDKMIRKGARVDYSTKDGRNATHIAAMYSGVETLELILKRYSELLRKGAGPKKQ 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AYNVL-----DSEGNLPLHHAAKNCTGDKLKLCMEKTKTDF---IDTANFAN- 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --OSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             376 LAIHVACERKSKKAFPIVKRILE-----DIDQRM-----AEDGDGSLPIHLAFKFGNVN 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 GDIQDQSQQDQQEQDQQQGAVGGAVG-----NSPIERERVAAPESED----LYTVIIPK 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --LHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDL------GAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ilarity 21.8%; Pred. No. 2.7e-12;
Conservative 160; Mismatches 383; Indels 236; Gaps
                                                                                                          Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity 21.8%; Score 387; DB 2; Length 1913; les 217; Conservative 1.
                                                                                                                                                                                                                                                                                                                                                                                                                Genome sequence of the nematode C.elegans: A platform for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE; PG50068; ANK REPEAT; 20.
PROSITE; PG50297; ANK REP REGION; 1.
ANK repeat; Hypothetical protein.
SEQUENCE 1913 AA; 211429 MW; D421B7F253C42A27 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=Bristol N2;
Sulston J.E.;
Submitted (4MG-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; AL133902; CAC14420.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-Bristol N2;
MEDLINE-99069613; PubMed-9851916;
Hypothetical protein Y71A12B.4. Name=trp-4; ORFNames=Y71A12B.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ASKGDLSEDQVE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS; PRÓ1415; ANKYRIN.
PRINTS; PRÓ1097; TRNSRECEPTRP.
SMART; SMOQ248; ANK; 28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  investigating biology.";
Science 282:2012-2018(1998)
                                       Name=trp-4; ORFNames=Y7.
Caenorhabditis elegans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P16157; 1N11
                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A
                                                                                                                                                                                          NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Loca
Matches
```

8 8

8 4 8 4 8 4 8 4

```
REPEAT
REPEAT
REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REPEAT
      THE LEFT THE LEFT THE DRAW AND DRAW AND
                                                                                                                                                                                                                                                                                                                                                                     33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQ---SPLHIITQKPDCSVL 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           260 RLLLDRGAQIETRTKDELTPLHCAARNGHVRISEILLDHGAPIQAKTKNGLSPIHMAAQG 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     364 -------YEHLPPVILKGVMDHVKNSSEFODLVNDPD---YFGNTIA 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 320 DHLDCVRLLLQYNAEIDDITLDHLTPLHVAAHCGHRVAKVLLDKGAKPNSRALNGFTPL 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      401 HYAVKNIKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQ 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   461 DVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--G 518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  438 NVKVETPLHMAARAGHTE-VAKYLLQNKAKANAKAKDDQTPLHCAARIGHTGMVKLLLEN 496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     665 VKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHG--IDINQRMGSDKNTV 722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRL 782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              156 LOOGHENVV-AHLINYGTKG-KVRLPALHIAARND-DTRTAAVL--LONDPNP----D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            338 DI-----LDFG----LVDGDGKNPLHHA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  605 FLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMOVAALFGDKEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          600 ---HSPAWN-GYTPLHIAAKONQIEVARSLLOY-GGSANAESVQGVTPLHLAAQEGHTEM
                                                                                                                                                                                                                                                                                                                                                                                                               221 IAEGISNPLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            519 SAKPNI------KGEDTVAKSLLMED-----YKGFTPLHFVAGGGSRDTF
                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                   Indels 151;
                                                                                                                                                                                                                                                                                                                           Length 1848;
                                                                                                                                                                                                                                                                                 5744BECBF9EBA056 CRC64;
                                                                                                                                                                                                                                                                                                                       Query Match 8.9%; Score 382.5; DB 2;
Best Local Similarity 26.2%; Pred. No. 4.5e-12;
Matches 180; Conservative 98; Mismatches 259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT; 1862 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         783 DDNGRSVLSSAIVPGRKEKGVLGIVNKL 810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SSNGTTPLAIA----KRLGYISVTDVL 790
                                                                                                                                                                                       PROSITE; PS50088; ANK REPEAT; 20.
PROSITE; PS50297; ANK REP REGION; 1.
PROSITE; PS50017; DEATH DOMAIN; 1.
InterPro; IPR001029; DEATH_like.
InterPro; IPR000906; ZUS.
Pfam; PF00023; Ank; 23.
Pfam; PF00531; Death; 1.
Pfam; PF00791; ZUS; 1.
PRINTS; PR01415; ANKYRIN.
SMART; SM000248; ANK; 23.
SMART; SM00005; DEATH; 1.
                                                                                                                                                                                                                                                                                 1848 AA; 202576 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ANKI MOUSE STANDARD;
002357;
01-NOV-1995 (Rel. 32, Created)
                                                                                                                                                                                                                                                              ANK repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        723
                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ANK1_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               binding domain.
62 kDa domain, spectrin binding domain.
55 kDa regulatory domain; regulates the binding of ankyrin to spectrin and the band 3 protein.
ANK 1.
ANK 2.
ANK 2.
ANK 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             regulatory domain.";

Mamm. Genome 3:281-285(1992).

-!-FUNCTION: Attach integral membrane proteins to cytoskeletal elements; bind to the erythrocyte membrane protein Band 4.2, to Na-K ATPase, to the lymphocyte membrane protein GP85, and to the Erythrocyte antwyrins also link spectrin (beta chain) to the Erythrocyte antwyrins also link spectrin (beta chain) to the cytoplasmic domain of the erythrocytes anion exchange protein; they retain most or all of these binding functions.

-!- SUBCELULAR LOCATION: Cytoplasmic surface of erythrocytic plasma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           89 kDa domain; anion exchange protein
                                                                                                                                                                 Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                                                                     TISSUE=ETYLhrocyte;
MatbINE=29145717; PubMed=1386265;
White R.A. Birkenmeler C.S., Peters L.L., Barker J.E., Lux S.E.;
"Murine erythrocyte ankyrin cDNA: highly conserved regions of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WGD; MGI:88024; Ankl.

WGD; MGI:88024; Ankl.

GO; GO:0016532; C:basolateral plasma membrane; ISS.

GO; GO:0019899; F:enzyme binding; ISS.

GO; GO:0030507; F:spectrin binding; ISS.

GO; GO:0005200; F:structural constituent c cytoskeleton; ISS.

GO; GO:0045199; P:maintenance of epithelial cell polarity; ISS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat; Cytoskeleton; Lipoprotein; Phosphorylation; Repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -1- PTM: Regulated by phosphorylation (By similarity).
-1- PTM: Acylated by palmitic acid group(s) (By similarity).
-1- SIMILARITY: Contains 23 ANK repeats.
-1- SIMILARITY: Contains 1 death domain.
01-NOV-1995 (Rel. 32, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Ankyrin 1 (Erythrocyte ankyrin).
Mane=Ankl; Synonyms=Ank-1;
Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS50297; ANK REP REGION; 1. PROSITE; PS50088; ANK REPEAT; 20. PROSITE; PS50017; DEATH DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR011029; DEATH like.
InterPro; IPR000906; ZUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; M84756; AAA37236.1; -.
PIR; 149502; 149502.
HSSP; P16157; 1N11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR002110; ANK.
InterPro; IPR000488; Death.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SMART; SM00248; ANK; 23.
SMART; SM00005; DEATH; 1.
SMART; SM00218; ZU5; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00023; Ank; 23.
Pfam; PF00531; Death; 1.
Pfam; PF00791; ZU5; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PR01415; ANKYRIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       69
102
135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           827
                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                  NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40
73
106
139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            828
1387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       membrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
```

ઠે 원 ò 셤 8 g ò 셤

```
SEQUENCE FROM N.A. (ISOFORMS 1-6).
STRANTE-STSML-STSUB-Kidney.
MEDLINE-95340633; PubMed=7615634; DOI=10.1083/jcb.130.2.313;
Peters L.L., John K.M., Lu F.M., Bicher E.M., Higgins A., Yialamas M., Turzzo L.C., Otsuka A.J., Lux S.E.;
"Ank3 (epithenial ankyrin), a widely distributed new member of the ankyrin gene family and the major ankyrin in kidney, is expressed in alternatively spliced forms, including forms that lack the repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. (ISOFORMS 7 AND 8).
STRAIN=C3H/HEJ; TISSUE=Bone Marrow;
MEDLINE=97213781; PubMed=9060470; DOI=10.1083/jcb.136.5.1059;
MEDLINE=97213781; PubMed=9060470; DOI=10.1083/jcb.136.5.1059;
MEDLINE=97213781; Discussional index the NH2-terminal repeats associate with mouse macrophage lysosomes ";
J. Cell Biol. 136:1059-1070(1997).
J. Cell Biol. 136:1059-1070(1997).
SKELETAL ELEMENTS; THEY BIND TO THE ERYTHROCYTE MEMBRANE PROTEIN BAND 4.2, TO NA-K ATPASE, TO THE LYMPHOCYTE MEMBRANE PROTEIN BAND TO THE CYTOPKELETAL PROTEINS AND DESMIN. ERYTHROCYTE ANKRINS ALSO LINK SPECTRIN (BETA CHAIN) TO THE CYTOPLASMIC DOMAIN OF THE ERYTHROCYTES ANION EXCHANGE PROTEIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ISOId=Q61307-8; Sequence=VSP_050349, VSP_050351, TISSUE SPECIFICITY: MAJOR FORM OF ANKYRIN IN KIDNEY AND OTHER BPITHELIAL TISSUES. ALSO EXPRESSED IN MACROPHAGES, MECAKARYOCYTES, LEYDIG CELLS, CARDIAC, SMOOTH AND SKELETAL MUSCLE, INITIAL SEGMENTS OF AXONS, AND NOBES OF RANVIER.
SIMILARITY: CONTAINS 24 ANK REPEATS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       THEY RETAIN MOST OR ALL OF THESE BINDING FUNCTIONS.
SUBCELLULAR LOCATION: PLASMA-MEMBRANE ASSOCIATED. ISOFORMS 7 AND
ARE ASSOCIATED WITH THE LYSOSOMAL MEMBRANE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IsoId=Q61307-3; Sequence=VSP_050350, VSP_050353, VSP_050355;
                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IsoId=Q61307-7; Sequence=VSP_050349, VSP_050351, VSP_050355;
                                                                                                      Q61307; O08866; O08887; Q61305; Q61306; Q61308; Q61310; O1-JUN-1998 (TrEMBLrel. 06, Created) 01-JUN-1998 (TrEMBLrel. 06, Last sequence update) 01-MR-2004 (TrEMBLrel. 26, Last annotation update) Ankyrin 3 (Ankyrin G) (Epithelial ankyrin) (Ankyrin-3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IsoId=Q61307-2; Sequence=VSP_050350, VSP_050353;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VSP_050355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Event=Alternative splicing; Named isoforms=8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Comment=Additional isoforms seem to exist;
                                                                                          1943 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IsoId=061307-4; Sequence=VSP_050354,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IsoId=Q61307-6; Sequence=VSP_050354;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IsoId=Q61307-5; Sequence=VSP_050352;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IsoId=Q61307-1; Sequence=Displayed;
                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          domain.";
J. Cell Biol. 130:313-330(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB58381.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         L40631; AAB01603.1;
L40632; AAB01605.1;
U89275; AAB58381.1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAB01604.1;
AAB01607.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  U89274; AAB58380.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALTERNATIVE PRODUCTS:
                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                             musculus (Mouse)
                                                                                                                                                                                                                                                                                                               NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    L40632;
                                                                                        061307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL;
EMBL;
EMBL;
EMBL;
EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          +
                                                                                          33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      221 IAEGISNPLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYN 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQ---SPLHIITQKPDCSVL 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----VEHLPPVILKGVMDHVKNSSEFQDLVNDPD---YFGNTIA 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HIACKKONH -- IRVMELLIKTGASIDAVTESGLTPLHVASFMGHLPIVKNILQRGASPNVS 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NVKVETPLHMAARAGHTE-VAKYLLONKAKANAKAKDDQTPLHCAARIGHTGMVKLLLEN 488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RWVRKNYEKCHD-----LATIRAALMQDRSGGELVNLGDFESENIL---GSPNAK 604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DHLDCVRLLLQYNAEIDDITLDHLTPLHVAAHCGHHRVAKVLLDKGAKPNSRALNGFTPL 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LQQGHENVV-AHLINYGTKG-KVRLPALHIAARND-DTRTAAVL--LQNDPNP----D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            461 DVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                519 SAKPNI------KGEDTVAKSLLMED-----YKGFTPLHFVAGGGSRDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GASPNLATTAGHTPLHTAAREGHVDTALLEKEASQACMTKKGFTPLHVAAKYGK---V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ---HSPAWN-GYTPLHIAAKONOIEVARSLLOY-GGSANAESVOGVTPLHLAAOEGHTEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VKMLAKSAKPSDLNPKTSATPTPLNLACLRGDNEVVRGLVGQHG--IDINQRMGSDKNTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LHYA I SKGDS FLVQKI LAHTGVDVNCENNLGQTPLHLAVEGGDPKI VSSLLKAGAVVNRL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1862;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                 204242 MW; AE6B85B5B29001E5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. 5.1e-12;
; Mismatches 257;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8.9%; Score 381.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DDNGRSVLSSAIVPGRKEKGVLGIVNKL 810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SSNGTTPLAIA----KRLGYISVTDVL 782
                                                                                                                                    111.
112.
114.
116.
119.
                                                                                                                                                                                                                                                                                                                                                                                                                              Death
                                                                                                                                                                                                                                                                                                                                                                                ANK
PARK A PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 26.0%,
"arches 179; Conservative 101;
                                                                                                                                                                                                                                                                                                               659
                                                                                                                                                                                                                                                                                                                                                                                                                              1483
                                                                                                                                                                                                                                                                                                                                                                                                                                               1862 AA;
                                                                                      148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           364
                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                           REPEAT
REPEAT
                                                                                                                                                                                                                                                                                                               REPEAT
REPEAT
                                            REPEAT
                                                              REPEAT
                                                                                        REPEAT
                                                                                                                                                       REPEAT
                                                                                                                                                                                 EPEAT
                                                                                                                                                                                                      REPEAT
                                                                                                                                                                                                                                                                                            REPEAT
                                                                                                                                                                                                                                                                                                                                                           REPEAT
                                                                                                                                                                                                                                                                                                                                                                                REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                     REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
```

셤

ઠે

8 q ò 셤 ò 요 8 셤 ઠે 셤 ሯ a

œ

```
27,
                                                                                                                                               232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              697
                                                                                                                                                                                          -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV 281
                                                                                                                                                                                                                                                                               282 LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE 341
                                                                                                                                                                                                                                                                                                        401
                                                                                                                                                                                                                                                                                                                                                                                                                                                     461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   619 ARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKPSDLN 678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        679 FKTSATPTPLNLACLRGDNEVVRGLVGQH-GIDINQRMGSDKNTVLHYAISKGDSFLVQK 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         738 ILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPG 797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      447 VRGETALHWAARRGQAE-VVRYLVQDGAQVBAKAKDDQTPLHISARLGKADIVQQLLQQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      642 AVTRQGIASVHLAAQEGHVDMVSLLLSRNANVNLSNKSGL---TPLHLA-AQEDRVNVAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
TISSUE=Brain stem;
MEDLINE=95138209; PubMed=7836469; DOI=10.1074/jbc.270.5.2352;
KSOTGeli E., Lambert S., Bennett V.;
"AnkyrinG. A new ankyrin gene with neural-specific isoforms localized
                                                                                                       184 TSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNES----EIAEGISNPLH------
                                                                                                                                               180 TKGKVRLPALHIAARKDD-----TKAAALLLQNDTNADVESKSGFT-PLHIAAHYGNIN
                                                                                                                                                                                                                                                                                                                                                                342 FISRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                     402 YAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           520 AKPNI------KGEDTVA-----KSLLMEDYKGFTPLHFVAGGGSRDTFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSP
                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NOBI_TaxID=9606;
             8.8%; Score 378.5; DB 2; Length 1943;
25.7%; Pred. No. 8e-12;
tive 98; Mismatches 275; Indels 133;

    Last sequence update)
    Last annotation update)

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT; 4377 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              798 RKEKGVLGIVNKLLDRGADIN 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           754 -AQQGHTHIINVLLQNNASPN 773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last seq
05-UTL-2004 (Rel. 44, Last amn
Ankyrin 3 (ANK-3) (Ankyrin G).
               Query Match
Best Local Similarity 25.7*
Matches 175; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ANK3 HUMAN
Q12955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=ANK3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          462
                                                                                                                                                                                            231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 11
                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ID
DDT ACCOCCOS SERVING SERVIN
                                                                                                                                               셤
                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                         ò
                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -> GDKCTWFKIPKVQEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24 X ANK MOTIF REPEATS.
SPECTRIN BINDING DOMAIN.
REGULATORY DOMAIN (REGULATES BINDING OF ANKYRIN TO SPECTRIN AND THE BAND 3
PROTEIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ANION EXCHANGE PROTEIN BINDING DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Missing (In isoform 2 and isoform 3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (in isoform 7 and isoform 8). P_050351.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /FTId=VSP 050353.
G -> GDKCTWFKIPKVQEVLVKS (in isoform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Missing (In isoform 3, isoform 4 and
                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS50088; ANK REPEAT; 21.
PROSITE; PS50297; ANK_REP REGION; 1.
PROSITE; PS50017; DEATH DOMAIN; 1.
ANK repeat; Alternative splicing; Cytoskeleton; Multigene family;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (in isoform 7 and isoform 8)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SDGEEG -> MALPHS (in isoform 2 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /FTId=VSP 050355.
1943 AA; 212013 MW; B23C4B6F82904804 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VRKASAPEKĪSDGEYISDGEEG
LVK (in isoform 5).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              050349.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         050350.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             050354.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  050352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and isoform 6)
/FTId=VSP 0503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOTIF 18.
MOTIF 19.
MOTIF 20.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOTIF 23.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOTIF 1.
MOTIF 2.
MOTIF 3.
MOTIF 5.
MOTIF 6.
MOTIF 9.
MOTIF 9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ANK MOTIF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FTIG=VSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FTId=VSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Missing
                                                                                                                                                                                                         InterPro; IPR011029; DEATH_like.
InterPro; IPR000906; ZUS.
Pfam; PP00023; Ank; 24.
Pfam; PP000531; Death; 1.
Pfam; PP00791; ZUS; 1.
PRINTS; PR01415; ANKYRIN.
SWART; SM000248; ANKYRIN.
SWART; SM000248; ZUS; 1.
                                   PIR; T42713; T42713.
PIR; T42714; T42714.
PIR; T42715; T42715.
PIR; T42716; T42715.
HSSP; P16157; 1N11.
G) GO:OG95202; C:Synapse; IDA.
InterPro; IPR002110; ANK.
InterPro; IPR00488; Death.
AAB01606.1;
AAB01602.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    826
810
1437
1943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55
88
1121
1121
1221
1234
3348
3348
4474
4474
460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     513
546
513
612
645
645
777
777
810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23
856
1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REPEAT
```

```
26;
                                                                                                                                                                                                                                                       353 ILQHNVPVDDVTNDYLTALHVAAHCGHYKVAKVLLDKKANP------NAKALNGFTPLH 405
                                                                                                                                                                                                                                                                                                                                                                                                                 :| | | ::|| | ::| | 655 ADANAVTRQGIASVHLAAQEGHVDMVSLLLGRNANVNLSNKSGL---TPLHLA-AQEDRV 710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  197 TKGKVRLPALHIAARKDD-----TKAAALLLONDNNADVESKSGFT-PLHIAAHYGNIN 249
                                                                                                                                                                                    250 VATLLIMRAAAVDFT----ARNDITPLH-VASKRGNANMVKLL-----LDRGAK-IDA 296
                                                                                                                                                                                                                            282 LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE 341
                                                                                                                                                                                                                                                                                                           342 FTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH 401
                                                                                                                                                                                                                                                                                                                                                                                      YAVKNIKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AKPNI-----KGEDTVA----KSLLMEDYKGFTPLHFVAGGGSRDTFR 558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENIL----GSPNAKFLQHIQSANF 614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SDLNFKTSATPTPLNLACLRGDNEVVRGLVGQH-GIDINQRMGSDKNTVLHYAISKGDSF 733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            734 LVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSA 793
                                                                                                                                                   -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----KYĞKLEVANLLIOKSASPDA-----AGKS 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | |:| |:| | :: | | :: | VRGETALHMAARSGQAE-VVRYLVQDGAQVEAXAKDDQTPLHISARLGKADIVQQLLQQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GPSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKP
                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bos taurus (Bovine).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                ed. No. 3e-11;
Mismatches 277; Indels 141;
                                                                        TSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNES----EIAEGISNPLH---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN-breed Japanese Black, TISSUE-Bone marrow, STRAIN-breed Japanese Black, TISSUE-Bone marrow, Matsumoto M., Inaba M., Koshino I., Saito D., Ono K.; Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases. EMBL, AF222766; AAF61702.1; -...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT; 1136 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         794 IVPGRKEKGVLGIVNKLLDRGADIN 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Created)
25.5%; PL. 92;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-OCT-2000 (TEMBLEE]. 15,
01-MAR-2004 (TEMBLEE]. 15,
Ankyrin 1 (Fragment).
                                  175; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-OCT-2000 (TrEMBLrel.
                Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bovinae; Bos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 675
                                                                        184
                                                                                                                                                                                                                                                                                                                                                                                        402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              520
                                                                                                                                                   231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             091180
                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 12
09N180
                                                                          8
                                                                                                             g
                                                                                                                                                                                      셤
                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠ
                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                    the Buropedn Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                    between the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                Event-Alternative splicing, Named isoforms=1,
Comment=A number of isoforms are produced;
Name=1, Synonyms=480-kDa isoform;
Isofd=Q12955-1, Sequence=Displayed;
ISOSUE SPECIFICITY: Expressed in brain and other tissues. Isoform
                                J. Biol. Chem. 270:2352-2359(1995).
-I- FUNCTION: Membrane-cytoskeleton linker. The neural-specific isoforms may participate in the maintenance/targeting of ion channels and cell adhesion molecules at the nodes of Ranvier
                                                                                                             axonal initial segments.
-!- SUBBUNT; Neural-specific isoforms may be a constituent of a
neurofascin/NRCAM/ankyrin G complex.
-!- ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480399 MW; F42379E55768B684 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PRO1415; ANKYRIN.
TIGREAMS; TIGR01784; T den put tspse; 1.
PROSITE; PS50029; ANK REPERFGON; 1.
PROSITE; PS60089; ANK REPEAT; 21.
PROSITE; PS60017; DEATH DOMAIN; 1.
Alternative splicing; ANK repeat; Cytoskeleton; Repeat.
              axonal initial segment and node of Ranvier.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MIM; 600465; -.
OC GO:0006605; P:protein targeting; NAS.
InterPro; IPR002110; ANK.
InterPro; IPR000488; Death.
                                                                                                                                                                                                                                                                                   1 is neural-specific. SIMILARITY: Contains 23 ANK repeats.
                                                                                                                                                                                                                                                                                                                            -!- SIMILARITY: Contains 1 death domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Death
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PANK
PANK
PANK
PANK
PANK
PANK
PANK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ANK
ANK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR011029; DEATH like.
InterPro; IPR000906; ZUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; U13616; AAA64834.1; -. PIR; ASS575;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00023; Ank; 24.
Pfam; PF00531; Death; 1.
Pfam; PF00791; ZU5; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genew; HGNd: 494; ANK3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PIR, A55575, A5557
HSSP, P16157, 1N11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REPEAT
REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REPEAT
```

InterPro; IPR002110; ANK

Length 4377;

DB 1;

8.8%; Score 377.5;

Query Match

```
Similarity
                                      NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                             ANK repeat
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99
                                                                                                                                                                                                                                                                                                                                                                                      Local
  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 649
                                                                                                                                                                                                                             221 IAEGISNPLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYN 280
                                                                                                                                                                                                                                                                                                                                                                                                  364 -----YEGNTIA 400
                                                                                                                                                                                                                                                                                                                                                                                                                    315 DHLDCVRLLLQYNAEIDDITLDHLTPLHVAAHCGHHRVAKVLLDKGAKPNSRALNGFTPL 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             375 HIACKGONH--IRVMELLLIKMGASIDAVTESGLTPLHVASFMGHPPIVKSLLQREASPNVS 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 492 NÄNPNLATTAGHTPLHIAAREGHVETÄLALLEKEASQTCMTKKGFTPLHVAAKYGK---V 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             558 RVVRKNYEKCHD-----GAPIRAALMQDRSGGELVNLGDFESENIL---GSPNAK 604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        549 RMAELLLE--HDAHPNAAGKSGLTPLHVAVHHNHL--DVVRL-----LLPRGGSPHSP 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          665 VRMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHG--IDINQRMGSDKNTV 722
                                                                                                                                                                                                                                                                                    VLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQ---SPLHIITQKPDCSVL 337
                                                                                                                                                                                                                                                                                                                                          338 DI----LVDGDGKNPLHHA--- 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200 VLSKTGFTPLHIAAHYENLNVAQLLLNRGA----SVNFTPQNGITPLHIASRRGNVIMV
                                                                                                                                                                                                                                                                                                                                                            HYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     605 FLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALN-----GYTPLHIAAKQNQLEVARSILQY-GGSANAESVQGVTPLHLAAQBGHAEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   151 LOOGHENVV-AHLINYGTKG-KVRLPALHIAARND-DTRTAAVL--LONDPNP----D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DVNGDTPLH1AVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGD1GV1KAL--G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SAKPNI----YKGFTPLHFVAGGGSRDTF
                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                  99; Mismatches 260; Indels 151;
                                                                                                                                           1136 AA; 123182 MW; 07CD8B1568ACE8C7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-JUL-2004 (TrEMBLrel. 27, Created)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Hypothetical protein FLJ44940.
                                                                                                                                                                                    4.4e-12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DDNGRSVLSSAIVPGRKEKGVLGIVNKL 810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SSNGTTPLAIA----KRLGYISVTDVL 785
                                                                                                                                                                    Score 377;
Pred. No. 4.
                                                                                  PROSITE; PS50088; ANK_REPEAT; 20.
PROSITE; PS50297; ANK_REP_REGION; 1.
                                                                                                                                                                      8.7%;
InterPro; IPR000906; ZUS.
Pfam; PF00023; Ank; 23.
Pfam; PF00791; ZUS; 1.
PRINTS; PR01415; ANKYRIN.
SMART; SM00248; ANK; 23.
SMART; SM00218; ZUS; 1.
                                                                                                                                                                      Query Match
Best Local Similarity 25.9
Matches 178; Conservative
                                                                                                                              1136
                                                                                                               ANK repeat
NON TER
                                                                                                                                                                                                                                                                                     281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        783
                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                         401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q6ZT57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 13
```

g

ò 셤

ద ઠે

g

셤 ઠે 요

셤 ઠે

ઠે

g

品 ઠે 셤 ò g ò

ઠે

```
126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99 RVNAKDSKWLT---PLH----RAVASCS-----EEAVQVLLKHSADVNARDKNWQTPL 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98
                                                                                                                                                                                                             United States of the Emberory of the Emberory of the Emberory of Targener Emberory of Targene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ξ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     233 TCKDKKSYTPLHAAAAS-----SGMISVVKYLLDLGVDMNEPNAYGNTPLHVACYN-GQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     450 NL-----ECINILILNTGADF---NKKDKFGRSPLHYAAANCNYQCLFALVGSGASVNDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         72 VEDDEDLPPTLPPRTFSGEGYDDVGVSMPTVSRGIYQPP----IVQDSNLYSSI-GGVPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    127 EAQYDAAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEGISN---PL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LHHAAKNCTGDKLKLCMEKTKTDF1DTANFANQSPLH1ITQKPDCSVLDIEEFTSRNLDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               177 LHHAAFSGHGEMVKLLLSRGAN--INAFDKKDRRAIHWAAYMGHIEVVKL--LVSHGAEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DVVV-NELIDCGAIVNQKNEKGFTPLHFAAASTHGALCLELLVGNGADVNMKSKDGKTPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TVAKSLIMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATI----RAALMQDRSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TAKRGI-----HGMFPLHLAALSGFSD----CCRKLLSSGFDIDTPDDFGRTCLHAAAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9 LEEVEDESPARISK------LPQENKSLHSPPSGNVLVRYPSLVQAIFNGDPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DLTLFNMLKASGADLNVRNVVGRAPIH-VASSNGKANAVSGLVSCGIDVNSQDVNGDTPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARGIVSSNHNVMKDILN---FVGD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                             Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels 187;
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Butele
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  687 AA; 74096 MW; B5169C83017FF571 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                fatches 190; Conservative 115; Mismatches 299;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8.7%; Score 373.5; DB 2 24.0%; Pred. No. 3.3e-12;
```

27;

용 ò 셤 Š 셤

```
280 KTRDGLTPLHCGARSGHEQVVEMLLDRSAPILSKTKN--GLSPLHMATQGDHLNCVQL-- 335
                                                                                                                                                                                                          336 ILQHNVPVDDVTNDYLTALHVAAHCGHYKVAKVILD--KKASPNAKALN-----GFTPLH 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | | :| | | :| | :| | | :| | | :| | | :| | | :| | | :| | | :| | | :| | | :| | | :| | | :| | | :| | | :| | | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| | :| |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            642 AVTRQGIASVHLAAQEGHVDMVSLLLSRNANVNLSNKSGL---TPLHLA-AQEDRVNVAE 697
                                                                                                                                                                                                                                                                                                                                                                                                                                                            LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   342 FTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----AGKSGLTP 584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          619 ARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKPSDLN 678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             679 FKTSATPTPLNLACLRGDNEVVRGLVGQH-GIDINQRMGSDKNTVLHYAISKGDSFLVQK 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   738 ILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPG 797
                                                                                                                                                                                                                                                                                                             -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV
                                                                                                                                                                                                                                                                                                                                                         233 VATLLIMRAAAVDFT----LDRGAK-IDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YAVKNINADLTLFNMLKASGADLNVRNVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AKPNI -----KGEDTVA-----KSLLMEDYKGFTPLHFVAGGGSRDTFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   184 TSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNES----EIAEGISNPLH-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=20196006; PubMed=10731132; DOI=10.1126/science.287.5461.2185; Adams M.D., CeLniker S.B., Holt R.A., Evans C.A., Gocayne J.D., Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F., Amanatides P.G., Evers S.E., Li P.W., Scherer S.B., Li P.W., George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
   Length 1726;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25-OCT-2004 (TERMELTE1. 22, Last sequence update)
CG11020-PA (Mechanosensory transduction update)
Name=nompC; ORFNames=CG11020;
Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota; Neoptera; Endopteraygota; Diptera; Brachycera; Muscomorpha; Ephydroidea; Drosophilae; Drosophilae; Drosophilae.
INSI_TaxID=7227;
                                                                               Indels
                                       Pred. No. 1.6e-11;
98; Mismatches 276;
   DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1619 AA
8.6%; Score 371.5;
25.6%; Pred. No. 1.66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          798 RKEKGVLGIVNKLLDRGADIN 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -acceptations - Acceptation - 
                                       Best Local Similarity 25.6
Matches 174; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9VMR4; Q9NGR8
                                                                                                                                                                                                                                                                                                                                                                                                                                                            282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  754
                                                                                                                                                                                                                                                                                                         231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              564
       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9VMR4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9VMR4
                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---ATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKN 720
                                                                                                                                                                                      TVLHYAISKGDSFLVQKILAHTGVDVNCENN-LGQTPLHLAVEGGDPKIVSSLLKAGAVV 779
                                                                                                                                                                                                                              Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Musinae, Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1726 AA; 188238 MW; 430148B67E00B1CA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Strausberg R.;
Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; BCO21657; AAH21657.1; -.
HSSP; P16157; 1N11.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT; 1726 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. STRAIN=FVB/N; TISSUE=Salivary gland;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REGION; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS50088; ANK REPEAT; 21.
PROSITE; PS50297; ANK REP REGION;
PROSITE; PS50017; DEATH DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MGD; MGI:88026; Ank3.
GO; GO:0045202; C:synapse; IDA.
Pfam; PF00023; Ank; 24.
Pfam; PF00531; Death; 1.
Pfam; PF00791; ZU5; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SMART; SM00248; ANK; 22.
SMART; SM00005; DEATH; 1.
SMART; SM00218; ZUS; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              00791; ZU5; 1.
PR01415; ANKYRIN.
                                                                                                                                                                                                                                                                                                                                         NRL---DDNGR 787
                                                                                                                                                                                                                                                                                                                                                                                                                     NAVDIQDGNGQ 687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAR-2002 (TrEMBLrel.
01-MAR-2002 (TrEMBLrel.
01-MAR-2004 (TrEMBLrel.
                                       AKPSDLNFKTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ank3 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ANK repeat
SEQUENCE
                                       672
                                                                                                                                                                                                                                                                                                                                         780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2
```

```
RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,

Ra Man K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Gabor G.L.,

RA Abril J.F., Agbayani A., An H.J., Andrews Pfannkoch C., Baldwin D.,

Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beaaley E.M.,

Ballew R.M., Basu A., Berman B.P., Bhandari D., Bolshakov S.,

RA Burtis K.C., Busam D.A., Butler H., Caddeteln P., Borter P.,

RA Burtis K.C., Busam D.A., Butler H., Caddeteln P., Brottier P.,

RA Gerry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,

RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,

RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,

RA Dodson K., Doup L.E., Gargelista C.C., Ferriara S., Fleischmann W.,

RA Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,

RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,

RA Harris N.L., Harvey D., Heiman T.J., Well M.H., Ibegwam C.,

RA Jalai M., Kalush F., Karpen G.H., Re Z., Kennison J.R., Ketchum K.A.,

RA Jalai M., Ralush F., Karpen G.H., Re Z., Kennison J.E.,

Rake P., Lei Y., Leviteky A.A., Li J., Li Z., Liang Y., Lin X.,

Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,

RA Melson D.R., Nakon K., Nakon K., Nakon D., Puri V., Resee M.G.,

RA Balazzolo M., Pittman G.S., Panlard J., Puri V., Resee M.G.,

RA Shue B.C., Siden-Kiamos I., Simpson M., Strong R., Smith T.,

Ra Spier E., Spradling A.C., Stapleron M., Strong A.H., Wang X.,

Ranger P., Spradling A.C., Stapleron M., Strong A.H., Wang X.,

Ranger S., Panlar M., Wang M., Wohrer M., Wang A.,

Ranger S., Panlar R., Wang M., Wang R.,

Ranger M., Wang M., Wang M., Wang M.,

Ranger M., Wang M., Wang M., Wang M.,

Ranger M., Wang M., Wang M., Wang M.,

Ranger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wang Z.Y., Wassarman D.A., Weinstock G.M., Weissenbach J., Williams S.M., Woodagar, Worley K.C., Wu D., Yang S., Yao Q.A., Ye J., Yeh R.F., Zaveri J.S., Zhan M., Zhang W., Zhao G., Zheng L., Zhong X.H., Zhong W., Zhou X., Zho S., Zhu X., Smith H.O., Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.; "The genome sequence of Drosophila melanogaster."; science 287:2185-2195[200]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=22426065; PubMed=12537568; Carlson J.W., Halpern A., Calniker S.B., Mheeler D.A., Krommiller B., Carlson J.W., Halpern A., Calniker S.B., Mheeler D.A., Laverty T., Muzny D.M., Nelson A., George R.A., Hoskins R.A., Laverty T., Muzny D.M., Nelson C.R., Pacleb J.W., Park S., Pfeiffer B.D., Richards S., Sodergren B.J., Weinstock G., Scherer S.E., Myers E.W., Gibbs R.A., Rubin G.M.; Weinstock G., Scherer S.E., Myers E.W., Gibbs R.A., Rubin G.M.; Finishing a Wold-egenome shotgun: Release 3 of the Drosophila melanogaster euchromatic genome sequence."; Genome Biol. 3:RESEARCH0079-2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=22426070; PubMed=12537573;
Kaminker J.S., Bergman C.M., Kronmiller B., Carlson J., Svirskas R.,
Patel S., Frise E., Wheeler D.A., Lewis S.E., Rubin G.M.,
Ashburner M., Celniker S.E.;
"The transposable elements of the Drosophila melanogaster euchromatin:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=22426069; PubMed=12537572;
Misra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S.,
Misra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S.,
Smith C.D., Tupy J.L., Whitfied E.J., Bayraktaroglu L., Berman B.P.
Bettencourt B.R., Celniker S.E., de Grey A.D., Drysdale R.A.,
Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.Q.,
Stapleton M., Yamada C., Ashburner M., Gelbart W.M., Rubin G.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Annotation of the Drosophila melanogaster euchromatic genome: a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genome Biol. 3: RESEARCH0084-RESEARCH0084 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ByBtematic review.";
Genome Biol. 3:RESEARCH0083-RESEARCH0083(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             genomics perspective.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lewis S.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        *****
```

SEQUENCE FROM N.A. FlyBase; Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.

```
119 SSIGGVPQEA----QYDAAARAGGPRKFLYGPYTFSNG-QEIMDFEFDTPWP----- 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    225 ISNPLHADVDNNPVKGAKNVMT-LMHLVYAC-DVDPRIVKALGEVENDEGDLGANAYNVL 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----DGNHIPLAGVHDMNTGMTPLMYATKDNKTAIMDRMIBLGADVGARNNDNYNV- 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   342 -PTSRNLDFGL-VDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTI 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       217 LLAAAGKDIRLKADGRGKIPLLLAVESGNQSMCRELL----AAQTAEQLKATTANGDTA 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              400 AHYAVKNIKNADLTLFINMLKASGADLNIVRNIVGRAPIHVASSNGKANAVSGLVSCGIDVNS 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      272 IHLAARRRDVDMV--RILVDYGTNVDTQNGEGGTPLHIAAAEGDEALLKYFYGVRASASI 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              330 ADNODRÍPMHLAAENGHAHVIEILADKFKASIFERTKDGSTLMHIASLNGHAECATMLFK 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    487 RGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIKGEDTV-----AKSLL 535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        536 MEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATI----RAALMQDRSG----- 583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  166 - DVRNAVLGNKEIKEEWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KGVYLHMPNKDGARSIHTAAAYGHTGIINTLLQKGEKVDVTTNDNYTALHIAVESAKPAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             283 DSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANGSPLHIITQKPDCSVLDIEE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSLTGPPDESATPSERATPASKADSDPK----DDSSSNGDKKDMDL-PPAPKPPSAGASI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                               EMBL; AE003609; AAF52248.3; -.

EMBL; AF22296; AAF59842.1; -.

HSSP; P09959; 1SM6.

FIYBase; PEGNOU16920; nompC.

GO; GO:0030506; F:ankyrin binding; NAS.

GO; GO:00038381; F:mechanically-gated ion channel activity; NAS.

GO; GO:000592; P:detection of sound; IMP.

GO; GO:0007638; P:mechanosory behavior; IMP.

GO; GO:0007605; P:perception of sound; IMP.

GO; GO:00781; P:sensory transduction of mechanical stimulus; TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 21.9%; Pred. No. 1.6e-11;
Matches 187; Conservative 133; Mismatches 299; Indels 236;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1619 AA; 176843 MW; B4FE239ABB1D1138 CRC64;
                                                 Submitted (MAR-2004) to the EMBL/GenBank/DDBJ databases
                                                                                                                           "A Drosophila mechanosensory transduction channel."; Science 0:0-0(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8.6%; Score 371; DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS50068; ANK REPEAT; 20.
PROSITE; PS50297; ANK_REP REGION; 1.
PROSITE; PS0190; CYTOCHROME C; UNKNOWN 1.
PROSITE; PS00794; HPPK; UNKNOWN 1.
                                                                                                            , Willingham A.T., Zuker C.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QDVNGDTPLHIAVEGGSMETV------
                                                                                                                                                                                                                                                                                                                                                       Interpro, IPR002110; ANK.
Interpro, IPR0021110; Cat channel TrpL.
Interpro, IPR000345; CytC heme_BS.
InterPro, IPR000550; Hppk.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity 21.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR01415; ANKYRIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SMART; SM00248; ANK; 29
                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00023; Ank; 29
               SEQUENCE FROM N.A.
                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ANK repeat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                     FlyBase;
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
```

584GELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVM 631	TGETPLHMACR	VEVGDSLHLPSERGYNAMQVAALFGD	: :     :     :	LNFKTSATPTPI	611 ADVTLQTKTALETAFHYCAVAGNNDVLMEMISHMNPTDIQKAMNRQSSVGWTPLLIACHR 670	RGLVGQHG-IDINQRM	671 GHMELVNNLLANHARVDVFDTEGRSALHLAAERGYLHVCDALLTNKAFINS 721	PLHLAVEGEDPKIVSSLLK-AGP	722 KSRVGRTALHLAAMNGFTHLVKFLIKDHNAVIDILTLRKQTPLHLAAASGQMEVC 776	808 NKLLDRGADINLDGD 822	777 QLLLELGANIDATDD 791
584	501	632	552	673	611	695	671	749	722	808	777
ò	qa	ò	qa	ò	q	ò	qq	ò	q		qq

Search completed: February 26, 2005, 18:53:54 Job time : 182  $\ensuremath{\mathfrak{gecs}}$ 

THIS PAGE BLANK (USPTO)

Drosophi]

Human

Rat ankyr Caenorhab Kid

Human

Human

Novel hum Drosophil Human the

dia dia the hum

Human

Human Human

Human Novel

Human Human Human Human

Run

```
The present invention relates to Ehrlichia canis immunoreactive surface glycoprotein pi53 (ADO15510) and Ehrlichia chaffeensis immunoreactive surface glycoprotein pi56 (ADO15511). The proteins are useful as subunit vaccines against canine and human ehrlichioses. They are also useful for serologic and molecular diagnostics of E. canis or E. chaffeensis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 PSGDIQDQSQQDQQEQDQQQGAVGGAVGNSPIERERVAAPESEDLYTVIIPKGKRTAAPI 60
                                                                                       Abm83919 I
Abm83916 I
Abm83915 I
                                                                                                                                                                                Abm83912 BAbm83913 BAbm83911 BAds10956 BAds10956 BAdd27861 BAdd27861 BAdd27861 BAdd27861 BAdd27861 BAbm83912 BAdd27861 BAbm83912 BAbm839
                                            Abm83918
Abm83917
                                                                                                                                                                                                                                                                                                                                                                                     Abg21941 | Abb65398 | Ads10993 |
                                                                                                                                                                                                                                                                                                                                           Aab62429
Aae33688
                                                                                                                                                                                                                                                                                                                      Aau00971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         831;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vaccine; immunoreactive; surface glycoprotein; p153; p156; canine ehrlichiosis; human ehrlichiosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New DNA encoding Ehrlichia species immunoreactive surface protein p156, useful as vaccines against canine and human for diagnosing ehrlichioses.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Immunoreactive surface protein p156, SEQ ID 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 4310; 100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALIGNMENTS
                                                                                                              ABM83916
ABM83915
ABM83914
ABM83912
ABM83913
ABM83911
                                                                                                                                                                                                                                               ADS10956
ADQ66099
ADD27861
AAU00971
                                                                                                                                                                                                                                                                                                                                         AAB62429
AAE33688
ABG21941
ABB65398
ADS10993
                                            ABM83918
ABM83917
                                                                                         ABM83919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 6; SEQ ID NO 2; 41pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADO15511 standard; protein; 831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   04-NOV-2002; 2002US-0423573P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        04-NOV-2003; 2003WO-US034916.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 831; Conservative
  919
11619
11955
11955
11955
33955
33955
4007
1003
11003
11098
11094
1118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mcbride JW, Walker DH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ehrlichia chaffeensis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (RERE-) RES DEV FOUND.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2004-419705/39.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
  WO2004042037-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 831 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-MAY-2004
364.5
3363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
363.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AD015511;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 1
  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tumour-as
Human MDD
Novel hum
Novel hum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human pro
Human sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Full leng
Human Pro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Angiogene
Angiogene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               pro
bra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            pro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ado15511 Immunorea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel hum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Angiogene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Immunorea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rat Prote
                                                                                                                                                        ; Search time 174 Seconds
(without alignments)
1847.114 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drosophil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         canis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human
                                                                                                                                                                                                                                             US-10-701-038-2
4310
1 PSGDIQDQSQQDQQEQDQQQQ......DRGADINLDGDHNILFDQCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Adk65850
Adk85850
Adc88330
Adc90358
Add47763
Abm804763
Abm11523
Abg10972
Abg10972
Adc08749
Adc8749
Adk65847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Adu00986 | Adm04552 | Add27862 |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Aam79160
Ade55508
Abg21944
Aau00970
Aau00988
                                                                                                                                                                                                                                                                                                                                                                                                                                                          2105692
                       5.1.6
Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                        2105692 seqs, 386760381 residues
                       GenCore version (c) 1993 - 2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                        2005, 18:36:06
                                                                                                              sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADK65850
ADS88330
AAU20496
ADR90358
ADB47763
ABM80232
ABG00972
ABG00375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAE33684
ADK65799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADM04552
ADD27862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADK65847
                                                                                                                                                                                                                                                                                                                                      BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                geneseqp1980s:*
geneseqp1990s:*
geneseqp2000s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         geneseqp2002s:*
geneseqp2003as:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A Geneseq 16Dec04:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      geneseqp2001s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           geneseqp2004s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        geneseqp2003bs:
                                                                                                              using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            831
1053
1059
1059
705
1880
1881
899
4274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1012
1619
1330
1839
1872
2622
4397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            687
1056
994

    prótein search,

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4386
                                                                                                                                                        February 26,
                                            Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         44 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ō
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq
seq
                                                                                                                                                                                                                                                                       Perfect score:
                                                                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4310
1963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
421
3390.5
3390.5
3390.5
3390.5
3390.5
3373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.5
373.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1300.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
DB
                                                                                                              OM protein
                                                                                                                                                                                                                                                                                                 Seguence:
                                                                                                                                                                                                                                                                                                                                                                                                           Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Maximum
                                                                                                                                                           ខូ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
```

ö

Gaps

ö

or or

protein p153 ehrlichioses

```
AD015510 standard; protein; 831 AA
                                                                                                                                                                                                               Claim 10; SEQ ID NO 2; 60pp;
                                              27-APR-2001; 2001WO-US013446
                                                                  28-APR-2000; 2000US-00561322
                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 99.7
Matches 373, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HHAVEHLPPVILKG
                                                                                                               Mcbride JW;
                                                                                        (RERE-) RES DEV FOUND
                                                                                                                                    WPI; 2002-049309/06.
                                                                                                                                               N-PSDB; ADG31915.
                                                                                                                                                                                                                                                                                                                                                                                   Sequence 390 AA;
  WO200182862-A2
                        08-NOV-2001
                                                                                                               Walker DH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADO15510
ID ADO1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 3
   ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                පු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          요. 요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                  120
                                                                              180
                                                                                                   180
                                                                                                                         240
                                                                                                                                                                                  AKNVMTLMHLVYACDVDPRI VKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCTGD 300
                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                         99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKN 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          immunoreactive surface protein, P43; antigen; tick borne disease; canine monocytic ehrlichiosis; bone marrow hypoplasia; haematologic ehrlichiosis; bone marrow hypoplasia; haematologic abnormality; leukopenia; thrombocytopenia; serodiagnosis; indirect fluorescent-antibody; IPA; acaricide; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TVLHYAISKGDSFLVQXILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVN
                                                                                                                                                                                                                                                                                                                                                  LAVINQRGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLIMEDYK
                                                                                                                                                                                                                                                                                                                                                                                                                                         PNAKFLOHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                    TVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVN
                                                                                                                                           WLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVKG
                                                                                                                                                                                                                                                                                                                                                              LAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DKEAVIMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKN
                                               LERKSPTPEPKVEDDEDLPPTLPPRTFSGEGYDDVGVSMPTVSRGIYQPPIVQDSNLYSS
                                                                              IGGVPQEAQYDAAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKEE
                                                                                               IGGVPQEAQYDAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKEE
                                                                                                                                                                                                                           KLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIBEFTSRNLDFGLVDGDGKNPL
                                                                                                                                                                                                                                                           HHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKAS
                                                                                                                                                                                                                                                                        HHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKAS
                                                                                                                                                                                                                                                                                                      GADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETV
                                                                                                                                                                                                                                                                                                                   GADLINVRINVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETV
WLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVKG
                                                                                                                                                                     AKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCTGD
                                                                                                                                                                                                                KLKLCMEKTKTDF1DTANFANQSPLH11TQKPDCSVLD1EEFTSRNLDFGLVDGDGKNPL
                                                                                                                                                                                                                                                                                                                                                                                             GFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGS
                                                                                                                                                                                                                                                                                                                                                                                                                 GFTPLHFVAGGGSRDTFRVVRRNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADINLDGDHNILFDQCL 831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        canis P43 immunoreactive surface protein SeqID 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADG31916 standard; protein; 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ehrlichia canis
                                                                                                                                                                                         241
                                                       61
                                                                             121
                                                                                                   121
                                                                                                                         181
                                                                                                                                               181
                                                                                                                                                                                                               301
                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                  61
                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                            원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                               셤
                                                                                                                                             쉱
                                                                                                                                                                                     유
                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ሯ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠ
                                                                             ð
                                                                                                                         ઠે
                                                                                                                                                                   ઠે
                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                        ઠે
                                 ઠ
```

```
180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LERKSPTPEPKVEDDEDLPPTLPPRTFSGEGYDDVGVSMPTVSRGIYQPPIVQDSNLYSS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New isolated and purified Bhrlichia canis immunoreactive surface protein, P43, for use as an antigen in immunodiagnosis of canine ehrlichiosis, and for preparation of a vaccine against canine ehrlichiosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              떠.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   75
                                                                                                                                                                                                           This invention relates to a novel use for the immunoreactive surface protein P43 specific to Ehrlichia canis (E. canis), which can be used as an antigon to immunodiagnose canime ehrlichiosis. This is a potentially fatal tick borne disease of dogs that is also known as canime monocytic ehrlichiosis, and which causes bone marrow hypoplasia as well as haematologic abnormalities such as leukopenia and thrombocytopenia. The present invention describes the serodiagnosis of canime ehrlichiosis performed by indirect fluorescent antibody (IFA) and using recombinant E canis P43 proteins. Accordingly, compositions derived from recombinant P43 proteins have acaricide activity and can be used in the development of a vaccine against canime monocytic ehrlichiosis. This polypeptide sequence is the E. canis P43 protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             256 AKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCTGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IGGVPQEAQYDAAARAGGPRKFLYGPYTFSNGQEIMDFBFDTPWPDVRNAVLGNKEIKEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WLTTSGPVRDIADRIVASKGDLSEDQVEBILDIIFMNESEIAEGISNPLHADVDNNPVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LERKSPTPEPKVEDDEDLPPTLPPRTFSGEGYDDVGVSMPTVSRGIYQPPIVQDSNLYSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIPMNESEIAEGISNPLHADVDNNPVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCTGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KLKLCMEKTKTDF1DTANFANOSPLH11TOKPDCSVLD1EEFTSRNLDFGLVDGDGKNPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PSGDIQDQSQQDQQGQQQQAVGGAVGASPIERERVAAPESEDLYTVIIPKGKRTAAPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PSGDIQDQSQQDQQEQDQQQGAVGGAVGNSPIERERVAAPESEDLYTVIIPKGKRTAAPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 1963; DB 5;
Pred. No. 5.5e-145;
); Mismatches 1;
                                                                                                                                                  English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         45.5%; SCOr
99.7%; Pred
```

```
099
                                                                                                                                                                                                                                                                                       655
                                                                                                                                                                                                                                                                                                                                               VSGDLYGYLNSQNFPTSPVHAAVKANNLQLLNLFLKKSPDILRQSSPNGFNPVHMAALFA 595
                                                                                                                                                                                                                                                    DKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKN 720
                                                                                                                                                                                                                                                                                                                          TVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVN 780
                                     LAVLNORGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYK
                                                                                                                              ų,
   --- VNTODVNGRTPLHCAAISGNSKGL
                                                                                                                                                                                                                                                                        | : ||:: ::| :::|| || |:|
DVKTVKLIIENASGBEVNAQSDSTLTPLHLACIRGDGSIIKRAVEHESVNVNQTMGPDQN
                                                                      417 SVMLLQNGVDCAVRDKNYSTPLHYAVAGNDIKSIKNLCSVKGRVQGVKSSAASLLCEDLQ
                                                                                                          GFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGS
                                                                                                                                                                               PNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ischaemia-reperfusion injury; haematopoiesis; cancer; neuropathy; transgenic animal; Alzheimer's disease; Parkinson's disease; burn; amyotrophic lateral sclerosis; platelet disorder; thrombocytopenia; ulcer; osteoporosis; bone degenerative disorder; periodontal disease; gut protection; lung; liver fibrosis; immune deficiency; infection; severe combined immunodeficiency; SCID; autoimmune disorder; altery; multiple sclerosis; rheumatoid arthritis; diabetes mellitus; asthma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Y, Zhou
Wang J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel polypeptides and nucleic acids obtained from cDNA libraries prepared from .various human tissues, for diagnosis and treatment of cancer, neurological, inflammatory, and autoimmune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    secreted protein; arthritis; Crohn's disease; sepsis; shock;
                                                                                                                                                                                                                                                                                                                                                                                                   831
                                                                                                                                                                                                                                                                                                                                                                                                 RLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADINLDGDHNILFDQCL
                                                                                                                                                                                                                                                                                                                                                                                                                      116 TVDNNGRSVISSAIYSGQNEKKLVPIVKLLINSGAKIGSQEDKNILLQKCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R, Xue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ren
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C, Wehrman T,
Zhang J, Chen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   human secretory protein, Seg ID No 343.
   -SPQASA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 multiple sclerosis; rheumatoid arthr:
fertility; analgesic; pain; antigen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAU28174 standard; protein; 1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Хu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-MAR-2000; 2000US-00519705.
19-MAY-2000; 2000US-00574454.
17-UIN-2000; 2000US-00561193.
14-UUL-2000; 2000US-00616847.
19-SEP-2000; 2000US-00665363.
20-OCT-2000; 2000US-006693267.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Drmanac RT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           05-MAR-2001; 2001WO-US004942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Asundi V,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2001-589934/66.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Liu C, 1
Yang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (HYSE-) HYSEO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB; AAS45074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200166689-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13-SEP-2001
                                                                                                                                         477
                                                                                                                                                                                                                536
                                                                                                                                                                                                                                                                                                                                                                                                 781
   387
                                   481
                                                                                                          541
                                                                                                                                                                             601
                                                                                                                                                                                                                                                    199
                                                                                                                                                                                                                                                                                       965
                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                            959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tang
Zhao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAU281
                                                                   셤
                                                                                                                                    셤
                                                                                                                                                                             à
                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ठ
                                                                                                        ઠે
                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     or
or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVD-GDGKNPL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCTGDK 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present invention relates to Ehrlichia canis immunoreactive surface glycoprotein p153 (ADO15510) and Ehrlichia chaffeensis immunoreactive surface glycoprotein p155 (ADO15511). The proteins are useful as subunit vaccines against canine and human ehrlichioses. They are also useful for serologic and molecular diagnostics of E. canis or E. chaffeensis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              65
                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein p153
ehrlichioses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | . | . | | . | | | . | | . | | . | AVEEDPLYAVPLPKGQRPATQVLEE ----DPSVEEEEEIAPPLPPRNNVGEVEPQEDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----GY-----DDVGVSMPTVSR-----GIYQPPIVQDS-----NLY---SSIGGVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          66 IYQGIPGHQEEMEEDPYASLDQVSQGAGADGIQENPVPQEAGEELEEDIYQDPADFQGLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QEA-QYDAAARAG---GPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKEEW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVKGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RNVMTLLHLAYAYNVDPRIINAIESVENSFGESGLDGYNIQDADGNLPLHHAAKNCNGQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421 GADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            39 APESEDLYTVIIPKGKRTA-APILERKSPTPEPKVEDDEDLPPTLPPRTFSGE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels 113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30.2%; Score 1300.5; DB 8; Length 831; 35.7%; Pred. No. 1.6e-92;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vaccine; immunoreactive; surface glycoprotein; p153; p156; canine ehrlichiosis; human ehrlichiosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                            New DNA encoding Ehrlichia species immunoreactive surface protein p156, useful as vaccines against canine and human for diagnosing ehrlichioses.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 35.7%; Pred. No. 1.6e-92; les 297; Conservative 156; Mismatches 265;
                                                                    Immunoreactive surface protein p153, SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 12; SEQ ID NO 1; 41pp; English.
                                                                                                                                                                                                                                                                  04-NOV-2003; 2003WO-US034916
                                                                                                                                                                                                                                                                                                      04-NOV-2002; 2002US-0423573P.
                                                                                                                                                                                                                                                                                                                                                                             Walker DH;
                                                                                                                                                                                                                                                                                                                                         DEV FOUND
                                   (first
                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2004-419705/39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    831 AA;
                                                                                                                                                          Ehrlichia canis.
                                                                                                                                                                                              WO2004042037-A1.
                                                                                                                                                                                                                                                                                                                                         (RERE-) RES
                                                                                                                                                                                                                                                                                                                                                                           Mcbride JW,
                                                                                                                                                                                                                                 21-MAY-2004
AD015510;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
```

셤

8

원

ሯ

a

ò

g

ò

g

ò

셤

8

硆

8

ò

(I) induces the proliferation of neural cells and regeneration of nerve and brain tissue and is useful for the treatment of central and peripheral nervous system diseases and neuropathies, such as Alzheimer's, Parkinson's disease, Huntington's disease, and amyotrophic lateral sclerosis. In addition, (I) is involved in chemotactic or chemokinetic activity, regulation of haematopoiesis and is useful for treating myeloid or lymphoid cell disorders, platelet disorders such as thrombocytopenia and for regeneration of bone, cartilage, tendon, ligament and/or nerve fissue growth, and in tissue repair, healing of burns, incisions, ulcers, for treating osteoporosis, osteoarthritis, bone degenerative disorders, or periodontal disease. Furthermore, (I) is also useful for gut protection or regeneration and treatment of lung or liver fibrosis, reperfusion injury in various tissues, various immune deficiencies and disorders including severe combined immunodeficiency (SCID), bacterial or fungal infections, autoimmune disorders e.g. multiple sclerosis, rheumatoid arthritis, diabetes mellitus, myasthenia gravis, allergic reactions and conditions. such as asthma or other respiratory problems. In addition, (1) affects biorhythms or circadian cycles of rhythms, fertility, metabolism, catabolism, anabolism, storage or elimination of dietary fat; lipid, protein, carbohydrate, vitamins, minerals, provides activity and can act as an anigen in a vaccine composition to raise an immune response. AAU28020-AAU28395, represent novel human secreted protein and polynucleotides (II). (I) and (III) are useful for treating inflammatory conditions such as arthritis, nephritis, Crohn's disease, ischaemia-reperfusion injury, shock, sepsies, immune responses, and is involved in increasing haematopoiesis, stem cell survival, bone growth and remodeling. (I), (II) and modulators of (II) are useful for prophylaxis or treatment of one or more cancers. (II) is also useful for creating transgenic animals useful for studying the in vivo activities of the polypeptide as well as for studying modulators of the polypeptides.

(I) induces the proliferation of neural cells and regeneration of nerve human secreted polypeptides (I) Example 5; SEQ ID NO 343; 107pp; English invention relates to novel isolated amino acid sequences of the invention 

Sequence 1053 AA

451 170 AVLGNKEIKE-------EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIF 215 216 MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEG 272 273 DLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKP 332 333 DCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP 392 SCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDI 511 TI----RAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSN 627 49 AYLGDAEIIELLILSGARVNAKDSKWLT---PLH----RAVASCS-----BEAVOVLL 94 GVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLA 236 NAYGNTPLHVACYN-GQDVVV-NELIDCGAIVNQKNEKGFTPLHFAAASTHGALCLELLV Query Match
9.8%; Score 421; DB 4; Length 1053;
Best Local Similarity 25.2%; Pred. No. 2.1e-23;
Matches 189; Conservative 101; Mismatches 269; Indels 190; Gaps 185 HIEVVKL--LVSHGAEVTCKDKKSYTPLHAAAS-----SGMISVVKYLLDLGVDMNEP DYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIH-VASSNGKANAVSGLV 95 KHSADVNARDKNWQTPLHIAAANKAVKCAEALVPLLSNV----452 572 134 393 g 셤 셤 ò 8 셤 요 요 ò ઠે ò ઠે

..

400 TPDDPGRTCLHAAAAGGNLECINLLIMTGADFNKKDKFGRSPLHYAAANCN 628 HNVMKDIIAFVGDSIH
--

```
393 DYFGNTIAHYAVKOKNADLTLFNMLKASGADLNVRNVVGRAPIH-VASSNGKANAVSGLV 451
  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                              634
                                                                        -- EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIF 215
                                                                                   MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEG 272
                                                                                                                                                        392
                                                                                                                                                                                                    241
                                                                                                                                                                                                                       451
                                                                                                                                                                                                                                         299
                                                                                                                                                                                                                                                           511
                                                                                                                                                                                                                                                                          GNGADVNMKSKDGKTPLHMTALHGRFSRSQTII-QSGAVIDCEDKNGNTPLHIAARYGHE 358
                                                                                                                                                                                                                                                                                              571
                                                                                                                                                                                                                                                                                                         627
                                                                                                                                                                                                                                                                                                                                                     456
                                                                                                                                                                                                                                                                                                                                                                      654
                                                                                                                                                                                                                                                                                                                                                                                                          703
                                                                                                                                                                                                                                                                                                                                                                                                                                               730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           185.
                                                                                                                                                                                                                                                                                                                                                                                  YQCLFALVGSGASVNDLDERGCTPLHYAATSDTDGKCLEYLLRNDANPGIRDKQGYNAVH
                                                                                                                                              DLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANGSPLHIITQKP
                                                                                                                                                                                                   191 HIEVVKL--LVSHGAEVTCKDKKSYTPLHAAAS-----SGMISVVKYLLDLGVDMNEP
                                                                                                                                                                                                                                 SCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDI
                                                                                                                                                                                                                                                                                              GVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLA
                                                                                                                                                                                                                                                                                                                                 TI----RAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSN
                                                                                                                                                                                                                                                                                                                                             -----LPSERGYNAMQ
                                                                                                                                                                                                                                                                                                                                                                                                          -----ATPTPLNLACLRGDNEVVRGL
                                                                                                                                                                                                                                                                                                                                                                                                                       -----KNTVLHYAISKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                               V-OSLLDLDVRNSSGRTPLDLAAFKGHVECVDVLINQGASILVKDYILKRTPIHAAATNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DSFLVQKILAH----TGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSECLRLLIGNAEPQNAVDIQDGN--GQTPLMLSVLNGHTDCVYSLLNKGANVDAKDKWG
                                                                                                                                                                                 DĆSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP
                                                                                                                                                                                                                      DYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIH-VASSNGKANAVSGLV
                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of a TNF-alpha signalling pathway protein complex Seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein complex; tumour necrosis factor-alpha signalling pathway; TNF-alpha; chronic inflammatory disease; rheumatoid arthritis;
                                                      Indels 190;
one of the 'differentially expressed proteins of the invention
                                     Length 1059;
                                                                                                                      Score 421; DB 7; L
Pred. No. 2.2e-23;
; Mismatches 269;
                                                                                                                                                                                                                                                                                                                                                                     HAVMKDILN---FVGD-----SLH------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RSVLSSAIVPGRKEKGVLGIVNKLLDRGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RTALHRGAVTGHEE-----CVDALLQHGA
                                                                                                                                                                                                                                                                                                                                                                                                        VAALFGDKEAVKMLAKSAKPSDLNFKTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ź
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADS88330 standard; protein; 1059
                                            Local Similarity 25.2%; Proces 189; Conservative 101;
                                                                                                                                                                                                                                                                                                                                                                                                                                             VGQHGIDINQRMGSD-----
                                     9.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                       170 AVLGNKEIKE-
                   Sequence 1059 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18-NOV-2004
                                                                                                                                                                140
                                                                                                                                                                                                                                        242
                                                                                                                                                                                                                                                          452
                                                                                                                                                                                                                                                                                                                                                                                        457
                                                                                                                                                                                                                                                                                                                                                                                                          655
                                                                                         22
                                                                                                                                              273
                                                                                                                                                                                  333
                                                                                                                                                                                                                       393
                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                              512
                                                                                                                                                                                                                                                                                                                                 572
                                                                                                                                                                                                                                                                                                                                                   406
                                                                                                                                                                                                                                                                                                                                                                      628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADS88330;
                                     Match
                                                     Matches
                                     Query
ន្តដូល
                                                                       8
                                                                                       셤
                                                                                                          ò
                                                                                                                         g
                                                                                                                                             δ
                                                                                                                                                              g
                                                                                                                                                                                 ઠે
                                                                                                                                                                                                 g
                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                             ਨੇ
                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                           요
                                                                                                                                                                                                                                                                                                                                                                                                                                             ሯ
                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    원
```

```
New protein complex comprising at least one first and second protein of
the Tumor Necrosis Factor-alpha(TNF-alpha)-signaling pathway, useful for
diagnosing or treating inflammation, neurological diseases, infectious
inflammatory bowel disease; infectious disease; septic shock; bacterial infection; neurological disease; stroke-induced inflammation; neurodegenerative disease; cancer; antiinflammatory; antiarthritic; antirheumatic; cytostatic; antibacterial; gene therapy; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kuester
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bauer A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ruffner H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example; SEQ ID NO 185; 1980pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bauch A,
                                                                                                                                                                                                                                                                                                                                                       2002EP-00021809
2003EP-00100274
                                                                                                                                                                                                                                                                                                 24-SEP-2003; 2003WO-EP050655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           G, Kruse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Huhse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2004-348460/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                      (CELL-) CELLZOME AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 diseases or cancer.
                                                                                                                                                                                           WO2004035783-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bouwmeester T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Superti-Furga
                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                       26-SEP-2002;
10-FEB-2003;
```

This invention relates to novel protein complexes of the tumour necrosis factor-alpha (TNF-alpha) signalling pathway. Specifically, it refers to methods for preparing these complexes comprising at least two component proteins, as well as screening methods to identify modulators of the pathway, which include antibodies, agonists and antagonists thereof. The pathway, which include antibodies, agonists and antagonists thereof. The clasmosing, prognosing or treating chronic inflammatory diseases such a theumatoid arthritis and inflammatory bowel disease; infectious diseases such as septic shock and bacterial infections; neurological diseases such as stroke-induced inflammation in neurons; neurological diseases and cancer. Accordingly, these complexes can be used for the development of pharmaceutical compositions that exhibit antihifammatory, antiarthritic, antirheumatic, cytostatic and antibacterial activities and can be used for gene therapy purposes. In particular, the invention further provides is alkNA-oligonucleotides useful for inhibiting protein expression for in vitro or cell culture assays. This polypeptide is a human protein that can be used in combination with other proteins provided in the performance of the form novel complexes of the TNF-alpha signalling pathway

the invention

Sequence 1059 AA;

```
29;
                                                                                                                                                                                  55 AYLGDABİIBLLILSGARVNAKDSKWLT---PLH----RAVASCS-----EFAVQVLL 100
                                                                                                                                                                                                                                                                                                                                                                                                           -----NVSDRAGRTALHHAAFSGHGEMVKLLLSRGAN--INAFDKKDRRAIHWAAYMG 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HIEVVKL--LVSHGAEVTCKDKKSYTPLHAAAS-----SGMISVVKYLLDLGVDMNEP
                                                                                                                         170 AVLGNKEIKE------EWLTTSGPVRDIADRIVASKGDLSEDOVEEILDIIF
                                                                                                                                                                                                                                                  216 MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEG
                                                                                                                                                                                                                                                                                                                                                                        273 DLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP
                                                               269; Indels 190;
      Length 1059;
                                                                                                                                                                                                                                                                                        Query Match
9.8%; Score 421; DB 8;
Best Local Similarity 25.2%; Pred. No. 2.2e-23;
Matches 189; Conservative 101; Mismatches 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 333
                                                                                                                                                                                                                                                                                                                                                                                                                                    140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             191
```

g

g

ò

용

ò

원 ò

ò

g

ò

g

ŝ

요

ð

셤

ò

```
2000US-0235834P.
2000US-0235836P.
2000US-0236327P.
2000US-0236367P.
                                                                                                             2000US-0225213P.
2000US-0225214P.
2000US-0225266P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0233064P.
2000US-0233065P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0232400P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0234223P.
2000US-0234274P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0234998P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0236368P.
2000US-0236369P.
                                                            2000US-0220963P
                                                                                      2000US-0224518P.
2000US-0224519P.
                                                                                                                                                                         2000US-0225270P.
2000US-0225447P.
                                                                                                                                                                                                                                                                                                                                                 2000US-0229345P
2000US-0229509P
                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0231244P
2000US-0231413P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0234997P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20-OCT-2000; 2000US-0241787P
                                                                                                                                                               2000US-0225268P
                                                                                                                                                                                                                           0225759P
                                                                                                                                                                                                                                                              2000US-0226868P
                                                                                                                                                                                                                                                                          2000US-0227182P
                                                                                                                                                                                                                                                                                                             2000US-0229287P
                                                                                                                                                                                                                                                                                                                          2000US-0229343P
                                                                                                                                                                                                                                                                                                                                                                           2000US-0229513P
                                                                                                                                                                                                                                                                                                                                                                                       2000US-0230437P
                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0230438P
                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0231242P
                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0231243P
                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0231414P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0232080P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0231968P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0232398P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000US-0232399P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0236802P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0237039P
                                                                                                                                                                                                   2000US-02257
                                                                                                                                                                                                                                                                                                                                       2000US-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           02-0CT-2000;
02-0CT-2000;
02-0CT-2000;
02-0CT-2000;
02-0CT-2000;
13-0CT-2000;
13-0CT-2000;
                                                                                   14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
                                                                                                                                               14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                 06-SEP-2000;
08-SEP-2000;
08-SEP-2000;
                                                                                                                                                                                                14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
                                                                                                                                                                                                                                                 22-AUG-2000;
22-AUG-2000;
22-AUG-2000;
                                                             26-JUL-2000;
26-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                01-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                          05-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               08-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-SEP-2000;
21-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29-SEP-2000;
                                                                                                                                                                                                                                                                                     23-AUG-2000;
30-AUG-2000;
                                                                                                                                                                                                                                                                                                                         01-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                      08-SEP-2000;
                                                                                                                                                                                                                                      18-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-SEP-2000
   511
                                                                                                                                                                                                                                                              575
                                                                                                                                                                                                                                                                                                               634
                                                                                                                                      627
                                                                                                                                                               456
                                                                                                                                                                                       654
                                                                                                                                                                                                                                      703
                                                                                                                                                                                                                                                                                                                                                              692
                                                    300 GNGADYNMKSKDGKTPLHMTALHGRFSRSQTII-QSGAVIDCEDKNGNTPLHIAARYGHE 358
                                                                                       512 GVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLA 571
                                                                                                                                                                                                     : :: :: | | | : :: | | 457 YQCLFALVGSGASVNDLDERGCTPLHYAATSDTDGKCLEYLLRNDANPGIRDKQGYNAVH 516
                                                                                                                                                                                                                                                                                      .-----KNTVLHYAISKG 730
                                                                                                                                                                                                                                                                                                                                       731 DSFLVQKILAH----TGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNG 786
                                                                                                     242 NAYGNTPLHVACYN-GQDVVV-NELIDCGAIVNQKNEKGFTPLHFAAASTHGALCLEELLV
                                      452 SCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDI
                                                                                                                                                     406 TPDDFGRTCLHAAAAGGNL-----BCLNLLLNTGADF---NKKDKFGRSPLHYAAANCN
                                                                                                                                                                                                                                                    635 HSECLRILIGNAEPQNAVDIQDGN--GQTPLMLSVLNGHTDCVYSLINKGANVDAKDKWG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Immunomodulatory; human immunodeficiency virus; HIV; anaemia; angina; rheumatoid arthritis; antiarteriosclerotic; cardiant; vascular; cerebroprotective; thrombolytic; antimicrobial; ophthalmological; cytostatic; Alzheimer's disease; Parkinson's disease; human; cancer; multiple sclerosis; cancer; hyperproliferative disorder; infection; Gaucher's disease; neurological disease; cerebrovascular disorder;
                                                                                                                                      TI----RAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARGIVSSN
                                                                                                                                                                                       628 HNVMKDILN---FVGD-----SLH------LPSERGYNAMQ
                                                                                                                                                                                                                                      655 VAALFGDKEAVKWLAKSAKPSDLNPKTS-----ATPTPLNLACLRGDNEVVRGL
                                                                                                                                                                                                                                                                                                                                                                                     RSVLSSAIVPGRKEKGVLGIVNKLLDRGA 815
                                                                                                                                                                                                                                                                                                                                                                                                     Human secreted protein, Seg ID No 488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAU20496 standard; protein; 705 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0186350P.
2000US-0189874P.
2000US-0199123P.
2000US-020515P.
2000US-0205515P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0180628P
2000US-0184664P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-JAN-2001; 2001WO-US001347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0215135P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               thrombosis; wound healing
                                                                                                                                                                                                                                                                                      VGQHGIDINQRMGSD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200155326-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-MAR-2000;
16-MAR-2000;
17-MAR-2000;
18-APR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       07-JUN-2000;
28-JUN-2000;
30-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    04-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-AUG-2001
                                                                                                                                      572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAU20496;
                                                                                                                                                                                                                                                                                      704
                                                                                                                                                                                                                                                                                                                                                                                       787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ношо
                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 7
```

```
encoding human secreted proteins (II). (I) and (II) are used to prevent, treat or ameliorate a medical condition in e.g. humans, mice, rabbits, goats, horses, cats, dogs, chickens or sheep. (I) and (II) may be used in the prevention, treatment and diagnosis of diseases associated with inappropriate expression of secreted proteins. (I) and complementary sequences may also be used as DNA probes in diagnostic assays (e.g. polymerase chain reactions (PCR)) to detect and quantitate the presence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nucleic acids and polypeptides, useful for diagnosing, preventing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         invention relates to novel isolated nucleic acid molecules (I)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 11; SEQ ID NO 488; 753pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ruben SM
                                                                                                                                                              2000US - 0246528P

2000US - 0246632P

2000US - 0246610P

2000US - 0246611P

2000US - 024920P

2000US - 024920P

2000US - 0249211P

2000US - 0249214P

2000US - 0249224P

2000US - 0249224P

2000US - 0249229P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2001US-0259678P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (HUMA-) HUMAN GENOME SCI INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         treating medical conditions
                                                                                                                                                   2000US-024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Barash SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2001-451931/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; AAS33205
                                                                                                                                                                                                                                                                                                                                                                                                     NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       05-JAN-2001;
                                                                                                                                                 08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
                                                                                                                                                                                     NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -DEC-2000;
            20-OCT-2000
20-OCT-2000
                                                         38-NOV-200d
                                                                                                    08-NOV-200d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-DEC-2000
05-DEC-2000
                                                                                                                                          NOV-2000
                                                                                                                                                                                                                                    17-NOV-200d
                                                                                                                                                                                                                                                          NOV-2000
                                                                                                                                                                                                                                                                      NOV-2000
                                                                                                                                                                                                                                                                                  17-NOV-2006
                                                                                                                                                                                                                                                                                               NOV-200d
                                                                                                                                                                                                                                                                                                                  NOV-2000
                                                                                                                                                                                                                                                                                                                                                                  NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rosen CA,
```

of similar nucleic acid sequences in samples, and so which patients may be in need of restorative therapy. (II) may also be used as antigens in CC the production of antibodies and in assays to identify modulators (agonists and antagonists) of the expression and activity of the secreted proteins. The anti-(II) antibodies and antagonists may also be used to down regulate expression and activity of (II). The anti-(II) antibodies cm ay also be used as diagnostic agents for detecting the presence of (II) in samples (e.g. by enzyme linked immunosorbant assay (ELISA)). The cin samples (e.g. by enzyme linked immunosorbant assay (ELISA)). The cin samples (e.g. by enzyme linked immunosorbant assay (ELISA)). The cin samples (e.g. by enzyme linked immunosorbant assay (ELISA)). The cin sample sclerosis), cancers and hyperproliferative disorders (e.g. malanomas, neoplasms of the breast or liver, Sezary syndrome and Gaucher's disease), neurological diseases (e.g. Alzheimer's disease,

CC melanomas, neoplasms of the breast or liver, Sezary syndrome and Gaucher's disease and Charcot-Marie-Tooth disease), cardio-CC cerebrovascular disorders (e.g. cardiac arrest, tachycardia, angina and CC cerebrovascular disorders (e.g. cardiac arrest, viruses and fungi and ocular consonists) in fections caused by bacteria, viruses and fungi and ocular disorders (e.g. corneal infections). (I) and (II), agonists, antagonists and antibodies can also be used to promote wound healing, maintain organs before transplantation, and support cell culture of primmary tissues. ---EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIF 215 216 MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEG 272 273 DLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKP 332 -----NVSDRAGRTALHHAAFSGHGEMVKLLLSRGAN--INAFDKKDRRAIHWAAYMG 161 333 DCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP 392 HIEVVKL--LVSHGAEVTCKÖKKSYTPLHAAAS-----SGMISVVKYLLDLGVDMNEP 212 271 GNGADVNMKSKDGKTPLHMTXXHGRFSRSQTII-QSGAVIDCEDKNGNTPLHIAARYGHE 329 GVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKYYEKCHDLA 571 330 LLİNTLITS-----GADTAKRGI-----HGMFPLHLAALSGFSD----CCRKLLSSGFDID 376 703 DYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIH-VASSNGKANAVSGLV 451 SCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDI 511 TPDDFGRTWSTCSCSGGNL----ECLNLLLNTGADF---NKKDKFGRSPLHYAAANCN 427 V-QSLLDLDVRNSSGRTPLDLAAFKGHVECVDVLINQGASILVKDYILKRTPIHAAATNG 605 26 AYLGDAEIIELLILSGARVNAKDSKWLT---PLH----RAVASCS-----ERAVOVLL 71 88 YSAAYGHRLCXQLIA-SETPLDVLMETSCTDMLSDSDNRATISPLHLAAYHGHHQALEVL HNVMKD1LN---FVGD-----SLH----SLH------LPSERGYNAMQ -----KNTVLHYAISKG TI----RAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSN VAALFGDKEAVKMLAKSAKPSDLNFKTS-----ATPTPLNLACLRGDNEVVRGL DSFLVQKILAH----TGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNG Gaps 9.6%; Score 413; DB 4; Length 705; 25.2%; Pred. No. 4.9e-23; ive 99; Mismatches 271; Indels 190; 72 KHSADVNARDKNWQTPLHIAAANKAVKCAEALVPLLSNV------VGQHGIDINQRMGSD-----170 AVLGNKEIKE------Query Match Best Local Similarity 25.2 Matches 189; Conservative 452 377 547 162 393 213 731 111 512 572 628 704 909 8888888888888888888888888 g g 셤 ò 유 ઠે 셤 ð 셤 ઠે ò 셤 ò 유 셤 à 셤 P, à 요 ઠ ઠે à à

RSVLSSAIVPGRKEKGVLGIVNKLLDRGA 815

787

ò

셤

```
688
                                                                                                                                                                                                                                                                                                                                   820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention discloses a composition comprising two or more isolated rat
                             THIAVEGGSMETVLAVLNORGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                     587
                                                                                                                                                                                588 LLPRG-----GSP-----HSPAWN-GYTPLHIAAKQNQVEVARSLLQY-GGSANAE 631
                                                                                                                                                                                                              SERGYNAMOVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                                                        for
--- AKVNAKAKDDQTPLHCAARIGHTNMVKLLLENNANPNLATTAGHTP
                                                                                                                                                    586 LVNLGDFESENILGSPNAKFLOHIOSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP
                                                                                                                                                                                                                                        SVQGVTPLHLAAQBEGHAEMVALLL--SKQANGNLGNKSGLTPLHLVAQEGHVPVADVLI-
                                                                                                                                                                                                                                                                                                                                 GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD
                                                   GEDTVAKSLIMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE
                                                                                                                                                                                                                                                                          OHG--IDINORMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New composition comprising two or more isolated polypeptides, useful preparing a medicament for treating pain in an animal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; pain; neuronal tissue; gene therapy;
spinal segmental nerve injury; chronic constriction injury; CCI;
spared nerve injury; SNI; Chung.
                                                                                                                     566 GKN------GLTPLHVAVHHNNLDIVKL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Costigan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human Protein XP_016774, SEQ ID NO 13459.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADD47763 standard; protein; 1881 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 1; Page; 1017pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Befort K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14-AUG-2001; 2001US-0312147P.
01-NOV-2001; 2001US-0346382P.
26-NOV-2001; 2001US-0333347P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14-AUG-2002; 2002WO-US025765.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (GEHO ) GEN HOSPITAL CORP. (FARB ) BAYER AG.
                                                                                                                                                                                                                                                                                                                                                                                                                          DKHRMSFPE 808
                                                                                                                                                                                                                                                                                                                                                                                              821 GDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Woolf C, D'urso D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2003-268312/26.
GENBANK; XP_016774.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO2003016475-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-DEC-2004
29-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27-FEB-2003,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADD47763;
                                                                                                                                                                                                                  646
                                                                                                                                                                                                                                             632
                                                                                                                                                                                                                                                                          904
                                                                                                                                                                                                                                                                                                      689
                                468
                                                                                          226
                                                                                                                                                                                                                                                                                                                                    764
                                                            507
    461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADD47763
ID ADD4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                        ઠે
                                                                                                                     g
                                                                                                                                                  ò
                                                                                                                                                                                셤
                                                                                                                                                                                                               à
                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to an isolated falcipain-2 inhibitor peptide. Peptides of the invention are derived from ankyrin and erythrocyte protein 4.1, and selectively inhibit falcipain-2-mediated cleavage of human erythrocyte protein 4.1, erythrocyte membrane ankyrin and haemoglobin. Further disclosed is a method for treating malaria infection in a subject suspected of having malaria. The falcipain-2 inhibitor peptide is useful for preparing a composition for treating malaria infection infection. The current sequence is full length human ankyrin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      406 TPLHVASFMGHLPIVKNLLQRGASPNVSNVK-----VETPLHMAARAGHTEVAKYLLQNK 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         350 HHRVAKVLLDKGAKPNSRALN--GFTPLHIACKKNHVRVMELLLKTGASID--AVTESGL 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK------GA---- 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                242 --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          299 GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEBFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New falcipain-2 inhibitor peptide, useful for preparing a pharmaceutical composition for treating malaria infection caused by Plasmodium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          149; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1880;
                                                                                                                                                                                                               Antiparasitic, gene therapy; falcipain-2; inhibitor; ankyrin; erythrocyte protein 4.1; haemoglobin; malaria; Ank P1; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 9.1%; Score 391.5; DB 8; Best Local Similarity 26.0%; Pred. No. 1.1e-20; Matches 174; Conservative 100; Mismatches 246;
                                                                                                                                                                                                                                                                                                                                                                                                             (SELI-) ST ELIZABETH'S MEDICAL CENT BOSTON INC.
    Example 6; SEQ ID NO 2; 72pp; English.
                                                                                                                                                                                   seq id 2.
                                                                                            ADR90358 standard; protein; 1880 AA
                                                                                                                                                                                                                                                                                                                                                  05-DEC-2003; 2003WO-US038835
                                                                                                                                                                                                                                                                                                                                                                                 06-DEC-2002; 2002US-0431294P
                                                                                                                                                                                   human ankyrin,
                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                           Chishti AH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2004-468808/44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1880 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; ADR90359
                                                                                                                                                                                                                                                                                        WO2004052914-A2
                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                 Full length
                                                                                                                                                                                                                                                                                                                     24-JUN-2004.
                                                                                                                                                       04-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                             Hanspal M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    256
                                                                                                                         ADR90358;
```

셤

ò

셤

셤

ઠે

g

ઠે

ð

셤 8 셤

computative or allelic variation of the nucleic acid sequence. Also claimed are a vector comprising the novel polynucleotide, a host cell comprising the vector, a method for identifying a nucleotide sequence. Which is differentially regulated in an animal subjected to pain and a kit to perform the method, an array, a method for identifying an agent that increases or decreases the expression of the polynucleotide sequence that is differentially expressed in neuronal tissue of a first animal subjected to pain, a method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially expressed in an animal subjected to pain, a method for identifying a compound that regulates the activity of one or more of the polynucleotides, a method for producing a pharmaceutical composition, a compound that regulates the activity of one or more of the polyneptides of an animal of one or more of the polyneptides of activity in an animal of one or more of the polyneptides given in the control of activity in an animal of one or more of the polyneptides or their antibodies. The polynucleotide or the compound that composition comprising the one or more pain and a pharmaceutical composition comprising the one or more polynucleotides activity is useful for preparing a medicament for treating pain and a spared nerve injury (CMung), chronic constriction injury (CX) and spared nerve injury (SNI) in an animal (e.g. gene CX injury (CX) and spared nerve injury (SNI) in an animal of the printed of the spedification) which is differentially expressed during pain. The sequence act as obtained in electronic form directly from WIPO at the print of the prin a polynucleotide which represents a fragment ftp.wipo.int/pub/published\_pct\_sequences. human polynucleotides or 

Sequence 1881 AA;

467 RIVASKGDLSEDQVEEILDIIFWNESEIAEGISNPLHADVDNNPVK-----GA---- 241 298 301 KTKNGLSPIHWAAQGHLD--CVRLLLQYDABIDDI-----TLD---HLFPLHVAAHCG 349 506 256 RULLDRGAQIETKTKOEL------TPLHCAARNGHVRISEILLDHGAPIQA 300 GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357 405 407 406 TPLHVASFMGHLPIVKNLLQRGASPNVSNVK----VETPLHMAARAGHTEVAKYLLQNK 460 LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525 GEDTVAKSLIMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE 585 631 SERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705 QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763 - KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK 408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP ------AKVNAKAKDDQTPLHCAARIGHTNMVKLLLENNANPNLATTAGHTP LVNLGDFESENILGSPNAKFLQHIOSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP LLPRG-----GSP----HSPAWN-GYTPLHIAAKQNQVEVARSLLQY-GGSANAE Gaps 149; 9.1%; Score 390.5; DB 7; Length 1881; llarity 26.0%; Pred. No. 1.3e-20; Conservative 100; Mismatches 246; Indels 149; Similarity Matches 174; 242 358 Query Match Best Local S 194 468 507 526 999 586 588 646 632 461 ଚ 셤 ઠ 엄 ઠે ద ሯ 셤 δ a 8 g 8 셤 ઠ 셤 ò 셤

GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD New tumor-associated antigenic target polypeptides and nucleic acids, useful in preparing a medicament for treating or detecting a proliferative disorder, e.g. breast, lung, colorectal, ovarian or Tumour-associated antigenic target; TAT; human; overexpression; citumour; diagnosis; cell proliferative disorder; breast cancer; colorectal cancer; lung cancer; ovarian cancer; liver cancer; central nervous system cancer; bladder cancer; pancreatic cancer; cervical cancer; melanoma; leukaemia; hybridisation probe; chromosome identification; chromosome mapping; gene mapping; Tumour-associated antigenic target (TAT) polypeptide PRO80961, Claim 12; SEQ ID NO 1071; 7273pp; English. ABM80426 standard; protein; 899 AA. 29-SEP-2003; 2003WO-US028547. 02-OCT-2002; 2002US-0414971P. (first entry) Zhou Y; prostate cancer or tumor. 821 GDHNILFDQ 829 800 DKHRMSFPE 808 (GETH ) GENENTECH INC. 2004-347921/32. Zhang Z, WPI; 2004-347921/ N-PSDB; ACN37888 WO2004030615-A2. Homo sapiens. 18-NOV-2004 15-APR-2004. ABM80426; 745 ňα TD, ABM80426

polypeptides, and their related nucleic acids. The TAT polypeptides are overexpressed in cancer tissues compared to normal tissues, and may thus serve as effective targets for the diagnosis and treament of cancer in mammals. The invention also relates to nucleic acid and polypeptide acid and polypeptide acid and polypeptide acid and polypeptide acid and polypeptide acids and expension vectors and host cells comprising a TAT nucleic acid; an antibody specific for a TAT polypeptide; a peptide or organic molecule which binds to a TAT polypeptide; a peptide or organic molecule which binds to a TAT polypeptide; fusion proteins comprising a TAT polypeptide, and methods and compositions for the treatment or antibodies, antagonists, binding molecules and compositions are useful for antibodies, antagonists, binding molecules and compositions are useful increased TAT expression, particularly cancers such as breast cancer, colorectal cancer, lung cancer, cancers such as breast cancer, cancer, pancreatic cancer, cervical cancer, cancers of the central cancer, melanoma and leukaemia. TAT nucleic acids may further be used as hybridisation probes, in chromosome and gene mapping, in the present sequence invention relates to human tumour-associated antigenic target (TAT) represents a TAT polypeptide of the invention

Sequence 899 AA;

```
24;
                                                                                                                                                                                                                                                                                                                                                                                                                                    327
                                                                                                                                                                                                                                                                                                                                                                                                     554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          362 GHÅLCLQLIAS---ETPLDVLMETSGTDMLSDS---DNRATISPLHLAAYHGHHQALEVL 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           266 EVENDEGDLGA-----NAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFA 320
                                                                                                                                                                   -----DLGVDMNEPNAY-----GNTPLHVACYN------GQDVVVNELIDCGAIV 111
                                                                                                                                                                                                                                                                    375 VMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAP 434
                                                                                                                                                                                                                                                                                                                                    IHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQ 494
                                                                                                                                                                                                                                                                                                                                                        AKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKNTVLHYAIS 728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KGDSFLVQKILAH----TGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDD 784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    anti-inflammatory; immunosuppressive; osteopathic; cytostatic; anti-HIV; haemostatic; nephrotropic; antianaemic; antipsoriatic; hepatotropic; gene therapy; protein replacement therapy; cell proliferative disorder; cancer; adenocarcinoma; leukaemia; lymphoma; melanoma; myeloma; sarcoma; anaemia; Crohn's disease; acquired immunodeficiency syndrome; AIDS; Goodpasture's syndrome; nflammation; osteoporosis; thrombocytopaenia;
                                                                                                    72
                                                                                                                                                                                                    NO-----SPLHIITOKPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKG
                                                                                                                                                                                                                                   112 NOKNEKGFTPLHFAAASTH-GALCLELLVGNGADVNMKSKDGKTPLHMTALH-----G
                                                                                                                                                                                                                                                                                     NNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSR
                                                                                                                                                                                                                                                                                                                                                                                                                                   DKFGRSPLHYAAANCNYOCLFALVGSGASVNDLDE------RGCTPLHYAA---TS
                                                                   209 EILDIIFMNESEIA---EGISNPLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DTFRVVRKNYEKCHDLATIRAALMODRSGGELVNLGDFESENILGSPNAKFLQHIQSANF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     615 GFSPARRGIVSSNHNVMKDIL-----NFVGDSLHLPSERGYNAMQVAALFGDKEAVKWL
                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        human; disease detection and treatment molecule polypeptide;
                                Indels 131;
   Length 899;
                                                                                                    33 EVVKLLVSHGAEVTCKDKKSYTPLHAAASSGMISVVKYLL------
8.9%; Score 382.5; DB 8;
25.8%; Pred. No. 1.7e-20;
ive 91; Mismatches 246;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      785 NGRSVLSSAIVPGRKEKGVLGIVNKLLDRGA 815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human MDDT polypeptide SEQ ID 470.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABU11523 standard; protein; 1536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                163; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        psoriasis; hepatitis.
 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12-FEB-2003
                                                                                                                                                                                                    321
                                                                                                                                                                                                                                                                                                                                                                                                                                    281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     531
                                                                                                                                                                  73
                                                                                                                                                                                                                                                                                                     164
                                                                                                                                                                                                                                                                                                                                                                                                     495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     555
                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                  요
                                                                                                                                    ઠે
                                                                                                                                                              ద
                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                              셤
```

WO200279449-A2

```
This invention describes a novel disease detection and treatment molecule polypeptide (MDDT) which has anti-inflammatory, immunosuppressive, csteepathic, cytostatic, anti-HIV, haemostatic, nephrotropic, antianaemic, antipsoriatic and hepatotropic activity. The polymucleotides cand the polypeptides of the invention can be used for gene therapy, of cytostatic replacement therapy and are useful for treating a variety of diseases or conditions. These polypeptides or polymucleotides are particularly useful for diagnosing, treating or preventing cell complexative disorders (e.g. cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, myshoma varcoma), anaemia, Crohn's cluckaemia, lymphoma, melanoma, myshoma varcoma, onderstiture's cyndromes, inflammation, osteoporosis, thrombocytopaenia, psoriasis or chapatitis. Abull1845 tepresent the MDDT polymucleotides encoded by ABU11450-ABU11845 represent the MDDT polymucleotides encoded complex acquence data for this parent did not form part of the printed specification, but was obtained in electronic format from MIPO at the wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               518 --GSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRA 575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 125 D--AVTESGLTPLHVASFMGHLPIVKNLLQRGASPNVSNVK-----VETPLHMAARAGHT 177
                                                                                                                                                                                                                                                                                                                                                                                                                                New purified disease detection and treatment molecule proteins and polynucleotides, useful for diagnosing, treating or preventing cancers (e.g. leukemia or sarcoma), anemia, Crohn's disease, AIDS, osteoporosis or hepatitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               68 PLHVAA-HCGHHRVAKVLLDKGAKPNSRALN--GFTPLHIACKKNHVRVMELLLKTGASI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              - IAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           289 PLHHAAKNCTGDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DFGLVDGDGKNPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      178 EVAKYLLONK------AKVNAKAKDDOTPLHCAARIGHTNMVKLLLENNANP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL
                                                                                                                                                                                                                                                                                                                     田;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                              l CR, Gietzen D, Chinn J;
Lason O, Yap PE, Amshey SR;
Juyen DA, Kleefeld Y, Gerstin I
Chen AJ, Panzer SR, Harris B;
KY, Urashka ME;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels 117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 27; SEQ ID NO 470; 339pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       84; Mismatches 206;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .5; DB
4e-20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8.9%; Score 382.5; ilarity 27.7%; Pred. No. 4e-Conservative 84; Mismatches
                                                                                                                                                                                                                                                                                                     Dufour GE, Hillman JL, Yu JY, Tuason
Daugherty SC, Dam TC, Liu TF, Nguyen
Peralta CH, David MH, Lewis SA, Chn
Flores V, Marwaha R, Lo A, Lan RY, U
                                                                                                                                                                                                                                                                                      Dahl CR,
                                                                 2001US-0279619P.
2001US-0280067P.
2001US-0280068P.
                                                                                                                                                                                                                                                                                      Jones AL, Tran AB,
                                                                                                                                                         2001US-0291849P.
2001US-0299428P.
2001US-0299776P.
                                                                                                                       2001US-0291280P
                               27-MAR-2002; 2002WO-US009944
                                                                                                                                                                                                               2001US-0300001P
                                                                                                                                                                                                                                                  (INCY-) INCYTE GENOMICS INC.
                                                                                                                                                                                                                                                                                                                                                                                            2003-058431/05.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1536 AA;
                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB; ABX34513
                                                                                                                                                                                                                                                                                                        Dutou.
Daugherty SC,
                                                                                                      29-MAR-2001;
16-MAY-2001;
                                                                                                                                                                             19-JUN-2001;
                                                                   28-MAR-2001;
29-MAR-2001;
                                                                                                                                          17-MAY-2001;
                                                                                                                                                            17-MAY-2001;
                                                                                                                                                                                                                 20-JUN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Simi
Matches 156;
10-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                      Daffo A,
요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
```

Qy         576 ALMODRSGGE           Db         315           Qy         632 KDILINFVGDS           Db         350 QYGGS           Qy         692 CLRGDNEVVH	LEKDAHPNAAGKN 314	
315 632 KDILN 350 G 692 CLRGD	ALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVM 631	
632 KDILN : 350 Q 692 CLRGD		
350 Q 692 CLRGD	KDILNFVGDSLHLPSERGYNAMQVAALFGDKFAVRMLAKSAKPSDLNFKTSATPTPLNLA 691	CC amino acid sequences of the i
. 692	-	CC electronic format directi
	DKNTVLHYAISKGDSFLV	XX SQ Sequence 4274 AA;
Db 403 AQEGHVPVAL	AQEGHVPVADVI.FKHGVMVDATTRMGYTPLHVASHYGNIKLVKFLLQHQ-ADVNAK 457	Query Match 8.8%;
Qy 750 NNLGQTPLHI	NNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNK 809	Matches 175; Conservative
Db 458 TKLGYSPLHC	TKLGYSPIHQAAQQGHTDIVTLLIKNGASPNEVSSDGTTPLAIAKRLGYISVTDV 512	Qy 184 TSGPVRDIADRIVASKGDLS
Oy 810 L'LDRGAL	L'LDRGADINLDGDHNILFDQ 829	Db 197 TKGKVRLPALHIAARKDD
Db 513 LKVVTDETSF	LKVVTDETSFVLVSDKHRMSFPE 535	Qy 231ADVDNNPVKG
RESULT 12		Db 250 VATLLINRAAAVDFT-
ABG00972 ID ABG00972 standard; protein;	protein; 4274 AA.	Qy 282 LDSEGNLPLHHAAKNCTGDR
ABG00972;		Db 297 KTRDGLTPLHCGARSGHEQV
13-FEB-2003 (£i	rst entry)	Qy 342 FTSRNLDFGLVDGDGKNPLH
Novel human diag	nostic protein #963.	Db 353 LLQHNVFVDDVTNDYLTALF
	therany	Qy 402 YAVKNKNADLILENMLKASC
	food supplement; medical imaging; diagnostic; genetic disorder.	Db 406 IACK-KNR-IKVMBLLLKHG
OS Homo sapiens.		Qy 462 VNGDTPLHIAVEGGSMETVI
PN WO200175067,-A2.		DD 464 VRGETALHMAARSGQAE-VV
PD 11-0CT-2001.		Qy 520 AKPNI
30-MAR-2001;	2001WO-US008631.	DD 523 ASPNAATTSGYTPLHLSARE
31-MAR-2000; 23-AUG-2000;	2000US-00540217. 2000US-00649167.	Qy 559 VVRKNYEKCHDLATIRAALM
(HYSE-) HYSEO		Db 574
Drmanac	Tang YT;	Qy 615 GFSPARGIVSSNHNVMKDI
		Db 598 ĠLTPLHVAAHYDNOKVALLI
DR N-PSDB; AAS65159.		Qy 675 SDLNFKTSATPTPLNLACLR
New isolated pol diagnostics, for	ynucleotide and encoded polypeptides, useful in ensics, gene mapping, identification of murations	Db 655 ADANAVIRQGIASVHLAAQE
responsible for biodiversity.	netic disorders or other traits and to assess	QY 734 LVQKILAHTGVDVNCENNIG
Claim 20: SEO	TD NO 31331. 103mm. Enclish	Db 711 NVAEVLVNQGAHVDAQTKMG
	descent college, mighton.	GVLG1
	Los to isolates polymeracectus (1) and polypeptus (11) useful as hybridisation probes, polymerase chain ers, olidomers, and for chromosome and cene mapping.	Db 771AQQGHTHIINVLLQN
CC and in recombinant CC in diagnostics as e	and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed	RESULT 13
	in in year increasy recumigues to restore normal restorates involving (II). (II) is	ABG0/3/5 ID ABG07375 standard; protein;
	ing antibodies against it, detecting of quantitating a sue, as molecular weight markers and as a food	AX AC ABG07375;
	nd the binding partners are useful in medical imaging (II). (I) and (II) are useful for treating disorders	DT 13-FEB-2002 (first entry)

```
in expression or biological activity. The ectide sequences have applications in deam mapping, identification of mutations of deam enapting, identification of mutations of deam and products dependent on DNA and G00010-ABG30377 represent novel human diagnostic the invention. Note: The sequence data for this the printed specification, but was obtained in 1y from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----TKAAALLLQNDNNADVESKSGFT-PLHIAAHYGNIN 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /LAVINORGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -KGEDTVA-----KSLLMEDYKGFTPLHFVAGGGSRDTFR 558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                :|: | | :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: || :: |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ::| |:|: ::: :| | | | | 2EGHVDMVSLLLGRNANVNLSNKSGL---TPLHLA-AQEDRV 710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEMENT STATEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AMODRSGGELVNLGDFESENIL----GSPNAKFLQHIQSANF 614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ------KYGKLEVANLLLQKSASPDA-----AGKS 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKP 674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LSEDQVEEILDIIFMNES----EIAEGISNPLH------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RGDNEVVRGLVGQH-GIDINQRMGSDKNTVLHYAISKGDSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GOTPLHLAVEGEDPKIVSSLLKAGAVVNRLDDNGRSVLSSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 377.5; DB 4; Length 4274;
Pred. No. 4.8e-19;
92; Mismatches 277; Indels 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         oct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RGADIN 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NNASPN 790
```

4386 AA.

```
558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         733
----NAKALNGFTPLH 412
                                           461
                                                                                      470
                                                                                                                                                                                529
                                                                                                                                                                                                                                                                                                                                                                 604
                                                                                                                                                                                                                                                                                                                                                                                                               674
                                                                                                                                                                                                                                                                                                                                                                                                                                           | :| | :| | | :| | | :| | GLTPLHVAAHYDNQKVALLLLD-QGASPHAAAKNGYTPLHIAAKKNQMDIATTLLBYG-- 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      118 NVAEVLVNQGAHVDAQTKMGYTPLHVGCHYGNIKIVNFLLQHSAKVNAKTKNGYTPLHQA 777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New 1995 cDNA, useful for treating osteoporosis, neurological diseases, Alzheimer's diseases, Parkinson's diseases, dementia and various cancers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human; oligo-capping method; diagnostic marker; gene therapy; osteoporosis; neurological disease; Alzheimer's disease; Parkinson's disease; dementia; short memory; cancer; sense or motor function; emotional reaction; fear response; panic; osteopathic; neuroprotective; nootropic; antiparkinsonian; cytostatic; tranquiliser.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Otsuki T;
                                                                                                                                                                -----KSLLMEDYKGFTPLHFVAGGGSRDTFR
                                                                                                                                                                                                                                                                                                                                                                                                               GFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SDINFKTSATPTPLNLACLRGDNEVVRGLVGQH-GIDINQRMGSDKNTVLHYAISKGDSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LVOKILAHTGVDVNCENNLGOTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSA
                                             YAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD
                                                                                      413 IACK-KNR-IKVMELLLKHGASIQAVTESGLTPIHVAAPMGHVNIVSQLMHHGASPNTTN
                                                                                                                                   VNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS
                                                                                                                                                                                                                                                                                                                      559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENIL----GSPNAKFLQHIQSANF
                                                                                                                                                                                                                                                                         530 ASPNAATTSGYTPLHLSAREGHEDVAAFLLDHGASLSITTKKGFTPLHVAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human protein useful for treating neurological disease Seq 2255.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sugiyama T,
                                                                                                                                                                                                                                                                                                                                                                    -----KYGKLEVANLLLOKSASPDA-
360 LLQHNVPVDDVTNDYLTALHVAAHCGHYKVAKVLLDKKANP---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        T, Isono Y,
Irie R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               794 IVPGRKEKGVLGIVNKLLDRGADIN 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----AQQGHTHIINVLLQNNASPN 797
                                                                                                                                                                                                                                -KGEDTVA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nishikawa 1
Nagai K, 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADR08749 standard; protein; 687 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (REAS-) RES ASSOC BIOTECHNOLOGY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-FEB-2004; 2004EP-00003145.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14-FEB-2003; 2003JP-00102207. 09-MAY-2003; 2003JP-00131452.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Yamamoto J,
A, Ishii S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2004-583265/57.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; ADR06793.
                                                                                                                                                                                                                                520 AKPNI---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EP1447413-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wakamateu A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 04-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18-AUG-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Isogai T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADR08749;
                                             402
                                                                                                                                                                                                                                                                                                                                                                                                                 615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    734
                                                                                                                                        462
                                                                                                                                                                                   471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        778
                                                                                                                                                                                                                                                                                                                                                                      581
                                                                                   g
                                                                                                                                                                                8
                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                            유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to isolated polymucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polymucleotides are also used in diagnostics as expressed sequence tags for identifying expressed sequence tags for identifying expressed carity to (II) or to treat disease states involving (II). (II) is useful for generating antibodies against it, detecting or quantitating a useful for generating antibodies against it, detecting or quantitating a useful for generating antibodies against it, detecting or quantitating of supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders involving aberrant protein expression or biological activity. The polypeptide and polymucleotide sequences have applications in diagnostics, forensics, gene mapping, identification of mutations cappositions for generating end products dependent on DNA and amino acid sequences. ABG00010-ABG30377 represent novel human diagnostic maino acid sequences of the invention. Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from MIPO at the printed specification, but was obtained in electronic format directly from MIPO at the printed specification, but was obtained in the printed specification and specification and sequences and sequences are sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    204 İKGKVRLPALHİAARKDD-----TKAAALLLQNDNNADVESKSGFT-PLHIAAHYGNIN 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                     Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8.8%; Score 377.5; DB 4; Length 4386; 25.5%; Pred. No. 5e-19; Live 92; Mismatches 277; Indels 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  184 TSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNES----EIAEGISNPLH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 20; SEQ ID NO 37734; 103pp; English.
                          Novel human diagnostic protein #7366.
                                                                                                                                                                                                                                                                                                                                                                                                                                         Tang YT;
                                                                                                                                                                                                                                                                              30-MAR-2001; 2001WO-US008631,
                                                                                                                                                                                                                                                                                                                      2000US-00540217.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2001-639362/73
                                                                                                                                                                                                                                                                                                                                                                                                                                       Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity
Matches 175; Conserv
                                                                                                                                                                                                                                                                                                                                                                                            (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2001-639362,
N-PSDB; AAS71562.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 4386 AA;
                                                                                                                                                                                     WO200175067-A2.
                                                                                                                                                                                                                                                                                                                      31-MAR-2000;
23-AUG-2000;
                                                                                                                                          sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            biodiversity
                                                                                                                                                                                                                                                                                                                                                                                                                                       RT,
                                                                                                                                                                                                                              11-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               231
                                                                                                                                        Ношо
```

g

셤 à

8

g

8

ઠે

This invention relates to novel, isolated full length human cDNA molecules and the encoded proteins thereof. Specifically, it refers to condecules and the encoded proteins thereof. Specifically, it refers to condecules and shadow, where none of these clones are identical to any known human mENAS. The present invention describes an immunoassay to identify agonists and antagonists, as well as antibense molecules and siRNAs that can all be used to bind to and modulate expression of the ODNA molecules. As such, these conditions are useful for diagnostic markers or therapeutic targets for molecules are useful for diagnostic markers or therapeutic targets for conditions of modulate expression of the oposition and sense. Parkinson's disease, or morbid states. In particular, they are useful in gene therapy for treating osteoporosis, neurological disease, Alzheimer's disease, Parkinson's disease, dementia, short memory and various cancers, as well as for maintening equilibrium of sense or motor function, and for they exhibit osteopathic, neuroprotective, nootropic, antiparkinsonian, cytostatic and tranquiliser activities. This polypeptide is a protein cencoded by a full length human cDNA sequence of the invention NOTE: This sequence is not given in the sequence listing of the specification but the can be obtained on CD-ROM from the European Patent Office, Vienna Sub-NO 2255; 2686pp; English. SEO ID office. 

Sequence 687 AA;

179 72 VEDDEDLIPPTLPPRTFSGEGYDDVGVSMPTVSRGIYQPP----IVQDSNLYSSI-GGVPQ 126 55 EAQYDAAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKE-----Gaps Indels 187; Length 687; Query Match
8.7%; Score 373.5; DB 8;
Best Local Similarity 24.0%; Pred. No. 5.9e-20;
Matches 190; Conservative 115; Mismatches 299; 127 σ Query Match 8 셤 ð

289 8 HADVDINIPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLP EV------AYLGDAEIIEK----KEDVNFQDNEKRTPLHAA--AYLGDAEIIELLILSGA -----EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEGISN---PL 230 26 180 셤 ઠે 셤 ò

232 -----NVSDRAGRTA 176 LHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDF 177 LHHAAFSGHGEMVKLLLSRGAN--INAFDKKDRRAIHWAAYMGHIEVVKL--LVSHGAEV 145 HIAAANKAVKCAEALVPLLSNV-----290

> g ò 원 ò

g

ò 셤 ò

DVVV - NELIDCGAIVNQKNEKGFTPLHFAAASTHGALCLELLVGNGADVNMKSKDGKTPL 343 HIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGED 469 344

528

584

TAKRGI-----HGMPPLHLAALSGFSD---CCRKLLSSGFDIDTPDDFGRTCLHAAAAGG 449 ELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILN---FVGD- 640 TVAKSLIMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATI----RAALMQDRSGG 585 398

529

ò 유 ò 셤 ð

g

Ä

DERGCTPLHYAATSDTDGKCLEYLLRNDANPGVRDKQGYNAVHYSAAYGHRLCLQLIA-5 559 -----STH-----641

919 TPLDLAAFKGHVECVD-VLINGGASILVKDYILKRTPIHAAATNGHSECLRLLIGNAEPQ 560 ETPLDVLMETSGTDMLSDSDNRATISPLHLAAYHGHHQALEVLV-QSLLDLDVRNSSGR-TVLHYAISKGDSFLVQKILAHTGVDVNCENN-LGQTPLHLAVEGGDPKIVSSLLKAGAVV 780 NRL---DDNGR 787 677 NAVDIQDGNGQ 687 618 721 원 δ 셤 ò

AAE33684 standard; protein; 1056 AAE33684 

Š

(first entry) 16-APR-2003 Human structural and cytoskeleton-associated protein (SCAP) #18.

Human; structural and cytoskeleton-associated protein; SCAP; leukaemia; cell proliferative disorder; actinic keratosis; cancer; gastroenteritis; cirrhosis; psoriasis; adenocarcinoma; Creutzfeldt-Jakob disease; stroke; sarcoma; neurological disorder; epipepsy; sassonal affective disorder; Huntington's chizophrenia; amnesia; viral infection; pneumonia; myeloma; arteriosclerosis; smallpox; Colorado tick fever; rabies; influenza; arteriosclerosis; smallpox; Colorado tick fever; rabies; gene therapy; neuroprotective; nootropic; neuroleptic; cytostatic; virucide.

sapiens Ношо

867. .874 /note= "ATP/GP-binding site motif Location/Qualifiers Key Binding-site

WO2002101009-A2

19-DEC-2002

2001US-0296865P 06-JUN-2002; 2002WO-US017956 07-JUN-2001;

08-JUN-2001; 2001US-0296678P. 15-JUN-2001; 2001US-0298664P. 21-JUN-2001; 2001US-0300149P. 29-JUN-2001; 2001US-030348P. 06-JUL-2001; 2001US-030348P. 12-JUL-2001; 2001US-030569P. 21-DEC-2001; 2001US-0343557P.

(INCY-) INCYTE GENOMICS INC.

Warren BA, Honchell CD, Richardson TW, Elliott VS; Yue H, Batra S, Griffin JA, Baughn MR, Forsythe IJ; Emerling BM, Sanjanwala MM, Khan PA, Lu DAM, Hafalia AJA; Yang J, Li JX, Becha SD, Yao MG, Gietzen KJ, Luo W; Yang J, Li JX, E Ison CH, Lasek AKW; Tang TY, Wa Walia NK, Y Burford N, Nguyen DB, Lee EA,

WPI; 2003-148791/14.

N-PSDB; AAD51581.

New human structural and cytoskeleton-associated proteins and genes, useful for diagnosing or treating cancers (e.g. leukemia or lymphoma) viral infections (e.g. influenza) or neurological disorders (e.g. or stroke) epilepsy

Claim 1; Col 195-198; 121pp; English.

The invention relates to human structural and cytoskeleton-associated proteins (SCAP) and genes. SCAP sequence and agonist are useful for

treating a disease or condition associated with decreased expression of functional SCAP. The antagonist is useful for treating a disease or condition associated with over expression of functional SCAP. The antagonist is useful for treating a disease or antibody that specifically binds to the polypebtide is useful for diagnosing a condition or disease associated with the expression of SCAP. SCAP sequence, agonists and antagonists are particularly useful for diagnosing, treating or preventing cell proliferative disorders (e.g. actinic keratosis, arteriosclerosis, cirrhosis, psoriasis, or cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, et sarcoma), horizoto disease, stroke, Alzheimer's disease, anxiety, creutzfeldt-Jakob disease, schizophrenia or amnesia) or viral infections or gastroenteritis). SCAP DNA is also used in gene therapy. The present sequence is human SCAP protein 8899999999999988

Sequence 1056 AA

Gaps Indels 227; Length 1056; Query Match 8.7%; Score 373.5; DB 6; Best Local Similarity 23.9%; Pred. No. 1.1e-19; Matches 198; Conservative 101; Mismatches 303;

g

ò

ò g ò

셤

셤 ઠે 267 VE-----NULDSEGNLGANAY-----NULDSEGNLPLHH 292 

213 AASNGQINVVKHLLNLGVEIDEINVYGNTALHIACYNGQDAVVNELIDYGANVNQPNNNG 272 -SPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDH--- 378 --LC---MEKTKTDFIDTANFANQ----293 AAKNCTGDKLK-323

g

a

ઠે

ద

à

g

ઠે g ò

ò

322

|: | :: | | | :: | | :: | | :: | 379 AALNAHSDCCRKLLSSGFEIDTPDKFGRTCLHAAAAGGNVECI-KILQSSGADFHKKDKC 437 ASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNND 497

591 DFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGY 650 -----PLHT------PLHT-----HROCLELL-

TILGNAHDN----SEELERARELKEKEATLCLEFLLONDANPSIRDKEGYNSIHYAAAYG

488

d

ð 셤 8

573

651 NAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGID 710

요

ઠે

INORMGSDKNTVLHYAISKGDSFLVQKIL--AHTGVDVNCENNLGQTPLHLAVEGGDPKI

768

817 769 VSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADI 8 g

completed: February 26, 2005, 18:50:50 Search completed: Fe Job time : 180 secs us-10-701-038-2.rai

```
HHAVEHLPPVILKG 374
                                                                                                                                                                                                                                        US-09-561-322-2
                                                                                                                                                                                                                                                                                                                                                                                                                US-09-561-322-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                               LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 2, Appli
Sequence 6966, Ap
Sequence 6966, Ap
Sequence 6966, Ap
Sequence 9010, Ap
Sequence 9011, Ap
Sequence 9011, Ap
Sequence 9011, Ap
Sequence 9011, Ap
Sequence 9016, Ap
Sequence 9017, Ap
Sequence 9017, Ap
Sequence 917, Ap
Sequence 4, Appli
Sequence 7659, Ap
Sequence 7659, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Appli
                                                        February 26, 2005, 18:47:23; Search time 44 Seconds (without alignments) 1409.849 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 3
Sequence 3
Sequence 3
Sequence 6
Sequence 7
Sequence 7
                                                                                                 US-10-701-038-2
4310
1 PSGDIQDQSQQDQQEQDQQQ......DRGADINLDGDHNILFDQCL
                                                                                                                                                                                                                                                                                                1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
5.1.6
Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-561-322-2
US-09-949-016-6966
US-09-949-016-6964
US-09-949-016-5876
US-09-949-016-6915
US-09-949-016-9011
US-09-949-016-9011
US-09-949-016-9011
US-09-949-016-9013
US-09-949-016-9013
US-09-949-016-9014
US-09-949-016-9015
US-09-949-016-9016
US-09-949-016-9016
US-09-949-016-9016
US-09-949-016-9016
US-09-949-016-7659
US-09-949-016-7659
US-09-949-016-7660
US-09-949-016-7660
US-09-949-016-7660
US-09-949-016-7660
US-09-949-016-7660
US-09-949-016-7659
US-09-949-016-7660
US-09-949-016-7660
US-09-949-016-7660
US-09-949-016-7660
US-09-949-016-7660
US-09-949-016-7660
US-09-949-016-7660
US-09-949-016-7660
US-09-949-016-7660
US-09-949-016-7660
                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                         513545 segs, 74649064 residues
 version - 2005
                                                                                                                                                                                                                                                                                                                                                                                                                SUMMARIES
                                                                                                                                                                                                                                              Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                       sw model
                                                                                                                                           BLOSUM62
Gapop 10.0 , Gapext 0.5
GenCore (c) 1993
                                                                                                                                                                                                                                                                                         Issued Patents AA:*
                                       using
                                                                                                                                                                                                                seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                      - protein search,
        Copyright
                                                                                                                                                                                                                                                 Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Title:
Perfect score:
                                                                                                                                            Scoring table:
                                                                                                                                                                                                                88
08
                                       protein
                                                                                                                                                                          Searched:
                                                                                                                        Seguence:
                                                                                                                                                                                                                                                                                         Database
                                                                                                                                                                                                                  Minimum
                                                                                                                                                                                                                            Maximum
                                                          Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š.
                                                                                                                                                                                                                                                                                                                                                                                                                                     Result
                                       ₹
```

```
Sequence 2, Application US/09561322

Sequence 2, Application US/09561322

Batent No. 6555777

GENERAL INFORMATION:
APPLICANT: Walker, David H.
APPLICANT: Mobride, Jere W.
TITLE OF INVENTION: P43 Antigen for the Immunodiagnosis of Canine Ehrlichiosis and FILE REFERENCE: D6325
CURRENT APPLICATION NUMBER: US/09/561,322
CURRENT FILING DATE: 2000-04-28

NUMBER OF SEQ ID NOS: 12

SEQ ID NO 2.
                                                                       33, Appl
33, Appl
10, Appl
2, Appli
2, Appli
2, Appli
2, Appli
334, App
378, App
378, App
378, App
378, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LERKSPTPEPKVEDDEDLPPTLPPRTFSGEGYDDVGVSMPTVSRGIYQPPIVQDSNLYSS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KLKLCMEKTKTDFIDTANFANOSPLHIITOKPDCSVLDIEEPTSRNLDFGLVDGDGKNPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PSGDIQDQSQQDQQEQDQQQGAVGGAVGNSPIERERVAAPESEDLYTVIIPKGKRTAAPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LERKSPTPEPKVEDDEDLPPTLPPRTFSGEGYDDVGVSMPTVSRGIYQPPIVQDSNLYSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KLKLCMEKTKTDPI DTANPANQSPLHIITQKPDCSVLDIEEFTSRNLDPGLVDGDGKNPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IGGVPQEAQYDAAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCTGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 PSGDIQDQSQQDQQEQDQQQGAVGGAVGNSPIERERVAAPESEDLYTVIIPKGKRTAAPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                            Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Seq
                              Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       45.5%; Score 1963; DB 3; 99.7%; Pred. No. 7.4e-161; ive 0; Mismatches 1;
US-09-392-812A-2

US-09-031-485-33

US-08-847-429A-33

US-09-196-347-33

US-09-196-387-10

US-09-196-387-10

US-09-196-387-2

US-09-196-387-2

US-09-196-387-2

US-09-196-387-2

US-09-196-387-378

US-09-131-281C-334

US-09-131-281C-334

US-09-352-616A-378

US-09-439-318-378

US-09-655-166A-378

US-09-655-166A-378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: P43 Antigen of Ehrlichia Canis
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 99.7
Matches 373; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Ehrlichia Canis
      7.444444444444
```

원

```
ASSOCIATED
OF DETECTION AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | :: | :: | | | | | | | | HRVAKVILIDKGAKPNSRALN--GFTPLHIACKKNHVRVMELLIKTGASID--AVTESGL 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIBEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     406 TPLHVASFMGHLPIVKNLLQRGASPNVSNVK-----VETPLHMAARAGHTEVAKYLLQNK 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SERGYNAMOVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        566 GKN------GLTPLHVAVHHNNLDIVKL----------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LLPRG-----GSP----HSPAWN-GYTPLHIAAKQNQVEVARSLLQY-GGSANAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GEDTVAKSLIMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----GA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels 149;
                                                                                                                                                                                                                                                                        Sequence 6054, Application US/09949016
Patent No. 6812339
GENERAL INFORMATION:
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASS
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASS
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF
FILE REFERENCE: CLO01307
CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT APPLICATION NUMBER: 60/241,755
PRIOR PLICATION NUMBER: 60/241,755
PRIOR FILING DATE: 2000-10-03
PRIOR PLILING DATE: 2000-10-03
PRIOR PLILING DATE: 2000-00-08
PRIOR PLILING DATE: 2000-00-08
PRIOR PLILING DATE: 2000-00-08
SOFTWARE FALSEQ FOR WINDOWS VERSION 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 9.1%; Score 390.5; DB 4; Best Local Similarity 26.0%; Pred. No. 5.6e-24; Matches 174; Conservative 100; Mismatches 246;
                                                                                     821 GDHNILFDQ 829
                                                                                                                                         800 DKHRMSFPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
ORGANISM: Human
                                                                                                                                                                                                                                  RESULT 3
US-09-949-016-6964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-949-016-6964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          461
                                음
                                                                               ò
                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                   JAPELICANTIL OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
FILE REFERENCE: CLOOLISO?
CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT FILING DATE: 2000-04-14
PRIOR PELING DATE: 2000-10-20
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301 KTKNGLSPIHMAAQGDHLD--CVRLLLQYDABIDDI-----TLD---HLTPLHVAAHCG 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  406 TPLHVASFMGHLPIVKNILLQRGASPNVSNVK-----VETPLHMAARAGHTEVAKYLLQNK 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     194 RIVASKGDLSEDQVEEILDIIFMMESEIAEGISNPLHADVDNNPVK------GA---- 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RLLLDRGAQIETKTKDEL------TPLHCAARNGHVRISEILLDHGAPIQA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LHIAVEGGSMETVLAVLNORGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE 585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVNLGDFESENILGSPNAKFLOHIOSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LLPRG------GSP-----HSPAWN-GYTPLHIAAKONQVEVARSLLOY-GGSANAE 631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       764 GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GLTPLHVAVHHNNLDIVKL------GLTPLHVAVHHNNLDIVKL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           149; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1719;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
9.1%; Score 390.5; DB 4;
Best Local Similarity 26.0%; Pred. No. 4.9e-24;
Matches 174; Conservative 100; Mismatches 246;
                                                                                                                                         Sequence 6966, Application US/09949016
Patent No. 6812339
GENERAL INFORMATION:
     376 HHAVEHLPPVNLKG 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-949-016-6966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             461
```

셤

ద ò

ò

g

ઠ

g

ò 요 ò

ò

g

Dp

ò

g

ઠ

ò

ð

```
APPLICANT: VENTER, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                            242 --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SERGYNAMOVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             406 TPLHVASFMGHLPIVKNLLQRGASPNVSNVK----VETPLHMAARAGHTBVAKYLLQNK 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   408 NADLTLFNMLKASGADLNVRNVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              468 LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE 585
                                             QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301 KTKNGLSPIHWAAQGDHLD--CVRLLLQYDARIDDI-----TLD---HLTPLHVAAHCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----GA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 1881;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 26.0%; Pred. No. 5.7e-24;
Matches 174; Conservative 100; Mismatches 246; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9.1%; Score 390.5; DB 4 26.0%; Pred. No. 5.7e-24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT FILING DATE: 2000-04-14
FRIOR APPLICATION NUMBER: 60/241,755
PRIOR FILING DATE: 2000-10-20
PRIOR FILING DATE: 2000-10-03
FRIOR FILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SEQ ID NO 6965
                                                                                                                                                                                                                                                                                                                                                                             ; Sequence 6965, Application US/09949016; Patent No. 6812339; GENERAL INFORMATION:
                                                                                                                                                                                                                                                GDHNILFDQ 829
                                                                                                                                                                                                                                                                                      800 DKHRMSFPE 808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                                                 US-09-949-016-6965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-949-016-6965
                     646
                                                           632
                                                                                               904
                                                                                                                                                                         764
                                                                                                                                                                                                            745
                                                                                                                                                                                                                                                821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                 g
                                                                                                                         요
                                                                                                                                                                                                          엄
                                                                                             ઠે
                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                              Sequence 5876, Application US/09949016

Patent No. 6812339

GENERAL INFORMATION:

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OP DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OP DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OP DETECTION AND USES THEREOF

CURRENT APPLICATION NUMBER: 60/241,755

PRIOR FILING DATE: 2000-10-20

PRIOR FILING DATE: 2000-10-03

PRIOR PRILICATION NUMBER: 60/231,498

PRIOR REPLICATION NUMBER: 60/231,498

PRIOR PRILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: FastSEQ for Mindows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31;
                                     KHGVMVDATTRMG---YTPLHVASHYGNIKLVKFLLQHQ-ADVNAKTKLGYSPLHQAAQO 744
                                                                           GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               256 RILLIDRGAQIETKTKDEL------TPLHCAARNGHVRISEILLDHGAPIQA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301 KTKNGLSPIHWAAQGDHLD--CVRLLLQYDABIDDI-----TLD---HLTPLHVAAHCG 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                299 GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              631
QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TPLHVASFMGHLPIVKNILLQRGASPNVSNVK-----VETPLHMAARAGHTEVAKYILLQNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----GA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LHIAVEGGSMETVLAVLNORGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LLPRG------GSP----HSPAWN-GYTPLHIAAKONOVEVARSLLOY-GGSANAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----AKVNAKAKDDQTPLHCAARIGHTNMVKLLLENNANPNLATTAGHTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GEDTVAKSLIMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMODRSGGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match i 9.1%; Score 390.5; DB 4; Length 1880; Best Local Similarity 26.0%; Pred. No. 5.7e-24; Matches 174; Conservative 100; Mismatches 246; Indels 149; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GKN-------GLTPLHVAVHHNNLDIVKL-
                                                                                                                                                   CDHNILFDQ 829
                                                                                                                                                                                    800 DKHRMSFPE 808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        , ORGANISM: Human
US-09-949-016-5876
                                                                                                                                                                                                                                                                    -09-949-016-5876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 5876
                                                                                                                                                   821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  507
                                                                           764
                                                                                                             745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           461
 ठ
                                 셤
                                                                           ઠ
                                                                                                         a
                                                                                                                                                 ઠ
                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠ
```

g

g

ઠે g

Ś

셤

ò

g ò

ò

```
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
TITLE OF INVENTION:
GURRENT FILING DATE: 2000-10-414
FRIOR FILING DATE: 2000-10-03
FRIOR PILING DATE: 2000-10-03
FRIOR PILING DATE: 2000-10-03
FRIOR FILING DATE: 2000-10-03
FRIOR PROPERTION NUMBER: 60/231,498
FRIOR FILING DATE: 2000-10-03
FRIOR FILING DATE: 2000-10-03
FRIOR FILING DATE: 2000-10-03
645
                                                                                                                                                                                                        LLPRG------GSP------HSPAWN-GYTPLHIAAKQNQVEVARSLLQY-GGSANAE 634
                                                                                                                                                                                                                                                                                                    | :| | | | | | :| | SVQGVTPLHLAAQEGHAEMVALLL--SKQANGNLGNKSGLTPLHLVAQEGHVPVADVLI- 691
                                                                                                                                                                                                                                                                                                                                                                      763
                                                                                                                                                                                                                                                                                                                                                                                                     GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TPLHVASFMGHLPIVKNLLQRGASPNVSNVK----VETPLHMAARAGHTEVAKYLLQNK 463
                                                                                                                                                                                                                                                                           SERGYNAMOVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HRVAKVLLDKGAKPNSRALN--GFTPLHIACKKNHVRVMELLLKTGASID--AVTESGL
                                                                                                                                                                          LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP
                                                                                                                                                                                                                                                                                                                                                                         QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT
                                                                       GEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----GA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           149;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1883;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9.1%; Score 390.5; DB 4;
26.0%; Pred. No. 5.7e-24;
ative 100; Mismatches 246;
                                                                                                          569 GKN-----GLTPLHVAVHHNNLDIVKL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; Sequence 9011, Application US/09949016 ; Patent No. 6812339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative 100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       821 GDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DKHRMSFPE 811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Huma
US-09-949-016-9011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 1883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                174:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local S:
Matches 174
                           510
                                                                            526
                                                                                                                                                                            586
                                                                                                                                                                                                                          591
                                                                                                                                                                                                                                                                           646
                                                                                                                                                                                                                                                                                                                           635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       764
                                                                                                                                                                                                                                                                                                                                                                      904
                                                                       à
                                                                                                                    g
                                                                                                                                                                          ò
                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PAPLICATION TO VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
FILE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
CURRENT APPLICATION NUMBER: US/09/949,016

CURRENT FILING DATE: 2000-04-14

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR PALING DATE: 2000-10-20

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: FESTSEQ for Windows Version 4.0

SEQ ID NO 9010

LENGTH: 1883:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       353 HHRVAKVLLDKGAKPNSRALN--GFTPLHIACKKNHVRVMELLLKTGASID--AVTESGL 408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 409 TPLHVASFMGHLPIVKNLLQRGASPNVSNVK-----VETPLHMAARAGHTEVAKYLLQNK 463
                                                586 LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
                                                                                                                                                   646 SERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                  QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                  GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -------AKVNAKAKDDQTPLHCAARIGHTNMVKLLLENNANPNLATTAGHTP 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             468 LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                   408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           149; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1883;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
9.1%; Score 390.5; DB 4;
Best Local Similarity 26.0%; Pred. No. 5.7e-24;
Matches 174; Conservative 100; Mismatches 246;
  ----GLTPLHVAVHHNNLDIVKL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 9010, Application US/09949016
Patent No. 6812339
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                             821 GDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           800 DKHRMSFPE 808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Human
  GKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-949-016-9010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       242
                                                                                                                                                                                                                                                 904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 464
                                                                                                                                                                                                                                                                                                                                               764
```

g

셤 ઠ

ઠ

셤

ò

ద

ઠે

ઠે

ò

```
LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                     LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
                                                                                                                                                                                                                                                                             SERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                                                                                                                                                                      764 GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |:::| |::| ||:
259 RLLLDRGAQIETKTKDEL-----TPLHCAARNGHVRISEILLDHGAPIQA 303
                                                                                                                                                                                                  GEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE 585
                                                                                                                                                                                                                                                                                                                                           QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT 298
                                                                                            358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK
                                 409 TPLHVASFMGHLPIVKNLLQRGASPNVSNVK----VETPLHMAARAGHTEVAKYLLQNK
                                                                          108 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----GA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels 149; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1883;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 9.1%; Score 390.5; DB 4; Best Local Similarity 26.0%; Pred. No. 5.7e-24; Matches 174; Conservative 100; Mismatches 246;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            821 GDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | : | :
803 DKHRMSFPE 811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-949-016-9013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-949-016-9013
                                                                                                                                                                    210
                                                                                                                                                                                                                              569
                                                                                                                                     468
                                                                                                                                                                                                  526
                                                                                                                                                                                                                                                             586
                                                                                                                                                                                                                                                                                                                        646
                                                                                                                                                                                                                                                                                                                                                      635
                                                                                                                                                                                                                                                                                                                                                                                    904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM:
                                                                                                     464
                                   셤
                                                                         8 8
                                                                                                                          ઠે
                                                                                                                                                            ద
                                                                                                                                                                                   ठ
                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                      6 B
                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SERVERAL INFORMATION:

APPLICANT: VANTER, J. Craig et al.

APPLICANT: VANTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;

CURRENT APPLICATION NUMBER: 00/41,755

PRIOR PILING DATE: 2000-10-20

PRIOR PILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SEQ ID NOS: 207012

SEQ ID NO 9012-SEQ FOR WINDOWS VERSION 4.0
                                                                            298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      304 KTKNGLSPIHMAAQGDHLD--CVRLLLQYDAEIDDI-----TLD---HLTPLHVAAHCG 352
NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP 467
                                                          LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                    526 GEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE 585
                                                                                                                                                                             LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
                                                                                                                                                                                                               591 LLPRG-----GSP----HSPAWN-GYTPLHIAAKONQVEVARSLLQY-GGSANAE 634
                                                                                                                                                                                                                                           646 SERGYNAMOVAALFGDKEAVKMLAKSAKPSDLNPKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                              QHG--IDINORMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                                                                                                    GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                      GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----GA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9.1%; Score 390.5; DB 4; Length 1883; 26.0%; Pred. No. 5.7e-24; Live 100; Mismatches 246; Indels 149;
                                                                                                                                                  569 GKN------GLTPLHVAVHHNNLDIVKL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 9012, Application US/09949016 Patent No. 6812339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative 100;
                                                                                                                                                                                                                                                                                                                                                                                                                               821 GDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                             DKHRMSFPE 811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 174; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; ORGANISM: Human
US-09-949-016-9012
                                                         468
                                                                                                                                                                                586
                                                                                                                                                                                                                                                                                                                                                                                                                                                            803
                                                                                                                                                                                                                                                                                                        904
                                                                                                                                                                                                                                                                                                                                                                    764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      242
                                                                                                                  ò
                                                                                                                                               유
                                                                                                                                                                               δ
                                                                                                                                                                                                        a
                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                         셤
                                                         ò
                                                                                  g
                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
```

31;

a ò a

셤 ò

ò

g

ò

g

ò

셤 ò g ઠ

Š

```
407
                                                                                                                          299 GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                467
                                                                                                                                                                                                                                                                                                                                         LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                             526 GEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE 585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    586 LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            646 SERGYNAMOVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | :| : | | | | | | | :| SVQSVTPLHLAAQEGHVEVALLL--SKQANGNLGNKSGLTPLHLVAQEGHVPVADVLI- 691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OHG--IDINORMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       748 GHTDIVTLLLKNGASPNEVSSDGTTPLAIA----KRLGYISVTDVLKVVTDETSFVLVS 802
              -----TPLHCAARNGHVRISEILLDHGAPIQA 303
                                                                             358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSBFQDL/NDPDYF----GNT-IAHYAVKNK
                                                     --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT
                                                                                                                                                                                                                                                                 408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP
                                                                                                                                                                                                                                                                                         GKN------GLTPLHVAVHHNNLDIVKL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 207012
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 9015
   |:: :| | :::|
RLLLDRGAQIETKTKDEL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKHRMSFPE 811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; TYPE: PRT
; ORGANISM: Human
US-09-949-016-9015
                                                     242
                                                                                                                                                                                                                                                                                                                                         468
                                                                                                                                                                                                                                                                                                                                                                            510
                                                                                                                                                                                                                                                                                                                                                                                                                                                 569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   764
                                                                                                                                                                                                                                                                                                      464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               90/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         803
                                                                                     g
                                                                                                                                                    g
                                                                                                                                                                                       ò
                                                                                                                                                                                                                            DP
                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요
                                                 ò
                                                                                                                          ઠે
                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                    ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 9014, Application US/09949016
Fatent No. 6812339
GENERAL INFORMATION:
FAPELICART: URBERL INFORMATION:
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
FILE REFERENCE: CLOO1307
CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT APPLICATION NUMBER: 60/241,755
FRIOR APPLICATION NUMBER: 60/241,755
FRIOR APPLICATION NUMBER: 60/231,768
FRIOR FILING DATE: 2000-10-03
FRIOR FILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 9014
LENGTH: 1883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31;
                                                                                                                                                                               467
                                                                                                                                                                                                                                                                      LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                                                                                            591 LLPRG------GSP-----HSPAWN-GYTPLHIAAKQNQVEVARSLLQY-GGSANAE 634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   646 SERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       706 QHG--IDINQRMGSDKWTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              764 GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  304 KTKNGLSPIHMAAQGDHLD--CVRLLLQYDAEIDDI-----TLD---HLTPLHVAAHCG 352
                                   299 GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                      353 HHRVAKVLLDKGAKPNSRALN--GFTPLHIACKKNHVRVMELLLKTGASID--AVTESGL
                                                                                                       358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK
                                                                                                                                                                             NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP
                                                                                                                                                                                                             ------AKVNAKAKDDQTPLHCAARIGHTNMVKLLLENNANPNLATTAGHTP
                                                                                                                                                                                                                                                                                                                        GEDTVAKSLLIMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE
                                                                                                                                                                                                                                                                                                                                                      569 GKN------GLTPLHVAVHHNNLDIVKL--------
                                                                                                                                                                                                                                                                                                                                                                                             LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          149; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1883;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
9.1%; Score 390.5; DB 4;
Best Local Similarity 26.0%; Pred. No. 5.7e-24;
Matches 174; Conservative 100; Mismatches 246;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 821 GDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    803 DKHRMSFPE 811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Human
US-09-949-016-9014
                                                                                                                                                                                                                                                                                                                                                                                             286
                                                                                                                                                                             408
                                                                                                                                                                                                               464
```

a

ઠે 셤 ઠે ---GA---- 241

194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK---

ઠે

31;

```
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
TITLE REPERENCE: CL001307
CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT FILING DATE: 2000-04-14
PRIOR PILING DATE: 2000-10-20
PRIOR APPLICATION NUMBER: 60/241,755
PRIOR PILING DATE: 2000-10-20
PRIOR APPLICATION NUMBER: 60/237,768
PRIOR FILING DATE: 2000-10-03
                                                                                                                                                                                                                                                                                                                                                                     304 KTKNGLSPIHWAAQGDHLD--CVRLLLQYDAEIDDI-----TLD---HLTPLHVAAHCG 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            :: |: :: | :: | | :: | | :: | | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  692 KHGVMVDATTRMG---YTPLHVASHYGNIKLVKFLLQHQ-ADVNAKTKLGYSPLHQAAQQ 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GDPKIVSSILKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GDKL-KLCMEKTKTDFIDTANFANOSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TPLHVASFMGHLPIVKNLLQRGASPNVSNVK----VETPLHMAARAGHTEVAKYLLQNK 463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE 585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT
                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                        149;
                                                                                                                                                                               Length 1883;
                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                          194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 9:1%; Score 390.5; DB 4; Best Local Similarity 26.0%; Pred. No. 5.7e-24; Matches 174; Conservative 100; Mismatches 246;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 9017, Application US/09949016 Patent No. 6812339 Patent INCORMATION:
APPLICANT: VENTER, J. Craig et al.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      821 GDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        803 DKHRMSFPE 811
                                                                     ORGANISM: Human
                                                                            ; ORGANISM: Humar
US-09-949-016-9016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-949-016-9017
   LENGTH: 1883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  286
                                                                                                                                                                                                                                                                                                                                                                                           259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           764
                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: VENTER, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
PILE REFERENCE: CLOO1307
CURRENT APPLICATION NUMBER: US/09/949,016
PRIOR PILING DATE: 2000-04-14
PRIOR PILING DATE: 2000-10-20
PRIOR PELING DATE: 2000-10-03
PRIOR PILING DATE: 2000-10-03
PRIOR PILING DATE: 2000-10-03
PRIOR PILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 9016
                                                                         31;
                                                                                                                                       194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----GA---- 241
                                                                                                                                                                                  304 KTKNGLSPIHMAAQGDHLD--CVRLLLQYDABIDDI-----TLD---HLTPLHVAAHCG 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        353 HHRVAKVLLDKGAKPNSRALN--GFTPLHIACKKNHVRVMELLLKTGASID--AVTESGL 408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     :|| :| || : || : || : :| | : || : :| | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || | : || : || | : || : || : || : || : || : || : || : || : || : || : || : || : || : || : || : || : || : || : || : || : || : || : || : || : || :
                                                                                                                                                                                                                                                                              - KNVMTLMHLVYACD - VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT 298
                                                                                                                                                                                                                                                                                                                                                                                                                     GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           408 NADLTLFNMLKASGADLAVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              468 LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        526 GEDTVAKSLIMEDYKGFTPIHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE 585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            586 LVNLGDFESENILGSPNAKFLOHIOSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP
                                                                            Gaps
                                                                         149;
9.1%; Score 390.5; DB 4; Length 1883; 26.0%; Pred. No. 5.7e-24;
                                                                     Indels
                                                                 Mismatches 246;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GKN-----GLTPLHVAVHHNNLDIVKL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 9016, Application US/09949016 Patent No. 6812339
                                                                 Conservative 100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         803 DKHRMSFPE 811
                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-949-016-9016
                                Best Local Sim
Matches 174;
                                                                                                                                                                                                                                                                                                                                                                                                                        299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     748
                                                                                                                                                                                                                                                                              242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       821
   Query Match
                                                                                                                                          ð
                                                                                                                                                                                                        용
                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
```

```
셤
                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                           요
                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         쉼
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 6978, Application US/09949016

Sequence 6978, Application US/09949016

GENERAL INFORMATION:

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

FILE REFERENCE: CLOO1307

CURRENT APPLICATION NUMBER: US/09/949,016
                                                                                                                                                                                                                                                                                                                                                                                      407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         748 GHTDIVTLLEKNGASPNEVSSDGTTPLAIA----KRLGYISVTDVLKVYDETSFVLVS 802
                                                                                                                                                                                                          194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK------GA---- 241
                                                                                                                                                                                                                             304 KTKNGLSPIHWAAQGDHLD--CVRLLLQYDABIDDI-----TLD---HLTPLHVAAHCG 352
                                                                                                                                                                                                                                                                                                                              GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                409 TPLHVASFMGHLPIVKNLLQRGASPNVSNVK----VETPLHMAARAGHTEVAKYLLQNK 463
                                                                                                                                                                                                                                                                                                                                                                                                                                               NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SERGYNAMOVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE
                                                                                                                                                                                                                                                                     --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT
                                                                                                                                                                                                                                                                                                                                                                                      NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ------AKVNAKAKDDQTPLHCAARIĞHTNMVKLLLENNANPNLATTAĞHTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             569 ĠKN------ĠĿŤPĹĤVAVHHNNLĎIVKL---------
                                                                                                                                                                               Gaps
                                                                                                                                                                               149;
                                                                                                                                                 Length 1883;
                                                                                                                                                                              Indels
                                                                                                                                                 Query Match
9.1%; Score 390.5; DB 4;
Best Local Similarity 26.0%; Pred. No. 5.7e-24;
Matches 174; Conservative 100; Mismatches 246;
PRIOR APPLICATION NUMBER: 60/231,498
PRIOR FILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 9017
LENGTH: 1883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                821 GDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | : | :
DKHRMSFPE 811
                                                                                                      ; ORGANISM: Human
US-09-949-016-9017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 14
US-09-949-016-6978
                                                                                                                                                                                                                                                                                                                                                                                                                                               408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         692
                                                                                                                                                                                                                                                                     242
                                                                                                                                                                                                                                                                                                                                                                                      358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           464
                                                                                          TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                              ઠે
```

```
26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AKPNI------KGEDTVA-----KSLLMEDYKGFTPLHFVAGGGSRDTFR 558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    615 GFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKP 674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SDLNFKTSATPTPLNLACLRGDNEVVRGLVGQH-GIDINQRMGSDKNTVLHYAISKGDSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 250 VATLLINRAAAVDFT----ARNDITPLH-VASKRGNANMVKLL-----LDRGAK-IDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VNGDTPLHIAVEGGSMETVLAVLNORGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENIL----GSPNAKFLQHIQSANF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      197 TKGKVRLPALHIAARKDD-----TKAAALLLQNDNNADVESKSGFT-PLHIAAHYGNIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LLQHNVPVDDVTNDYLTALHVAAHCGHYKVAKVLLDKKANP------NAKALNGFTPLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              184 TSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNES----EIAEGISNPLH--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 4377;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8.8%; Score 377.5; DB 4;
25.5%; Pred. No. 3e-22;
rative 92; Mismatches 277;
CURRENT FILING DATE: 2000-04-14

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR PLING DATE: 2000-10-20

PRIOR PELING DATE: 2000-10-30

PRIOR PELING DATE: 2000-10-03

PRIOR APPLICATION NUMBER: 60/231,498

PRIOR FILING DATE: 2000-09-08

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: PastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                794 IVPGRKEKGVLGIVNKLLDRGADIN 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ::| | | | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 15
US-10-164-595-38
Sequence 38, Application US/10164595
Patent No. 6657054
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 25.5%
Matches 175; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: HUMAN
US-09-949-016-6978
                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 6978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              231
```

```
28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        : ::: | | | | | | | | | :: |: LIKHSADVNARDKOWQTPLHVAAANKAVKCAEVIIPLL--------130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           351 HELLINTLITS----GADTAKCGI-----HSMFPLHLAALNAHSDCCRKILSSCGKYSI 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               108 OPPIVODSNLYSSIGGVPOEAQYDAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDV 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      168 RNAVLGNKEIKE------EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDI 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             214 IFMNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVEND 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               271 EGDLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQ 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  331 KPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVN 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          183 MGHLDVVAL--LINHGAEVTCKDKKGYTPLHAAASN------GQINVVKHLLNLGVEID 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIH-VASSNGKANAVSG 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 :::||| | | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            450 LVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYG 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    510 DIGVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKC-- 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------HDLATIRAALMQDRSGGELVNL----GDFESENILGSPNAKFLQ------ 607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      401 VSLFSNEHVLSAGFEIDTPDKFGRTCLHAAAAGGNVECIKLLQSSGADFHKKDKCGRTPL 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ------634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----- LINFVGDSLHLPSER---GYNAMOVAALFGDKEAVKMLAKSAKPS---- 675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          707 HGIDINQRMGSDKWTVLHYAISKGDSFLVQKIL--AHTGVDVNCENNLGQTPLHLAVEGG 764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -GASIFVKDNVTKRTPLHASVINGHTLCLRLLLEIADNPEAVDVKDAKGQTPLMLAVAYG 699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9 OPPLVO----AIFSGDPEEI-----RMLIHK----TEDVNTLDSEKRIPLHVA 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 49 -- AFLGDAEIIELLILSGARVNAKDNMWLT---PLH----RAVASRS-----EEAVQV 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----DINFKTSATPTPLNLACLRGDNEVVRGLVGQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADI 817
APPLICANT: OriGene Technologies, Inc
TITLE OF INVENTION: Regulated Angiogenesis Genes and Polypeptides
FILE REPERENCE: 1U 103 R1
CURRENT APPLICATION WUBBE: US/10/164,595
CURRENT FILING DATE: 2002-06-10
NUMBER OF SEQ ID NOS: 80
SOFTWARE: Patentin version 3.1
SEQ ID NO 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match

8.6%; Score 370.5; DB 4; Length 994;
Best Local Similarity 22.9%; Pred. No. 1.1e-22;
Matches 191; Conservative 114; Mismatches 311; Indels 217;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             608 HIQSANFGF------
                                                                                                                                                                                                                                                                                                                                                 ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-164-595-38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

Search completed: February 26, 2005, 18:55:45 Job time : 50 secs

THIS PAGE BLANK (972)

```
February 26, 2005, 18:54:00; Search time 143 Seconds (without alignments) 1906.329 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                               831
                                                                                                                                                                                                                                                                                                        US-10-701-038-2
4310
1 PSGDIQDQSQQDQQEQDQQQ.....DRGADINLDGDHNILFDQCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. (cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.ppp:*
2. (cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.ppp:*
3. (cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.ppp:*
4. (cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.ppp:*
5. (cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.ppp:*
6. (cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.ppp:*
7. (cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.ppp:*
8. (cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.ppp:*
9. (cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.ppp:*
10. (cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.ppp:*
11. (cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.ppp:*
12. (cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.ppp:*
13. (cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.ppp:*
14. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
15. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
16. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
17. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
18. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
19. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
19. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
19. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
19. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
19. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
19. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
19. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
19. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
19. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
19. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
19. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
19. (cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.ppp:*
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1385339 seqs, 328044528 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Published Applications AA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Minimum Match 08
Maximum Match 1008
Listing first 45 summaries
                                                                                                                     OM protein - prótein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                   BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Database
                                                                                                                                                                                  Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

	11;	ij	αq	g	ίď.	Αp	ij	Ap	<u> </u>	ď,	QQ.	֖֖ׅׅׅׅׅ֓֞֞֞֞֝֞֞֞֝֞֝֟֝֞֝֟֝֞֝֟֝֓֞֝֟֝֓֓֓֓֟֝֟֝֓֓֓֟֝֟֜֝֟֝֟֜֝֟֜֝֟֜֝	
	Sequence 2, Appli	1, Appl	43, A	43, A	8, Ap	237,	, App	122,	, App	2, Ap	17, A	0, Ap	, App
tion	nce 2	nce 1	nce 3	nce 3	nce 1	nce 3	nce 4	nce 4	uce 6	nce 2	nce 1	nce 2	ce 43
Description	Segue	Sequence	Seque	Sequence 343, App	Seque	Sequence 3237, Ap	Seque	Seque	Sequence 6, Appli	Seque	Seque	Sequence 20, Appl	Sequence 43, Appl
		Ţ.	343	343	18	1-3237	4	1-4122	ب	22	117	20	US-09-964-899-43
}	1-038-	1-038-	1-172-	1-278-	9-764-	3-260A	9-978-	3-2602	9-978-	9-764-	5-194-	3-794-	-889-4
	10-70	10-70	10-29	10-22	10-47	10-10	10-36	10-10	10-36	10-47	10-20	10-43	9-964
, E1	-Sn	-Sn	us-	us-	-sn	-SD	us-	ns-	-Sn	-Sn	ns-	-Sn	us-0
DB	16	16	15	15	17	15	14	15	14	17	14	15	6
* Query Match Length DB	831	831	1053	1053	1056	1330	1619	919	1709	1094	1762	720	1724
* Query Match	100.0	30.2	9.8	9.8	8.7	8.5	8.5	8.5	8.1	8.1	8.0	8.0	8.0
Score	4310	1300.5	421	421	373.5	368.5	368	364.5	351	350	345.5	344	343
Result No.	1	8	m	4	Ŋ	9	7	œ	თ	10	11	12	13

8 6 8

121 IGGVPQEAQYDAAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKEE 180

ò

Sequence 5	Sequence 3 Sequence 3 Sequence 3 Sequence 3	Sequence 3 Sequence 3 Sequence 3	Sequence 4 Sequence 4 Sequence 4 Sequence 4	Sequence 4 Sequence 4 Sequence 2	Sequence 2, Sequence 8 Sequence 8 Sequence 8	Sequences Sequences Sequences	Sequence 4. Sequence 2. Sequence 3. Sequence 4. Sequence 4. Sequence 4. Sequence 3. Sequence 3. Sequence 3.	r the Immunodiagnosis of ioses and Uses Thereof	protein p156	100.0%; Score 4310; DB 16; Length 831; Conservative 0; Mismatches 0; Indels 0; Gaps 0; GDIQDQSQQDQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ
15 US-10-182-243-	14 US-10-128-174- 14 US-10-128-174- 14 US-10-128-174- 14 US-10-128-174-	14 US-10-128-174- 14 US-10-128-174- 14 US-10-128-174-	14 US-10-128-174- 14 US-10-128-174- 14 US-10-128-174- 14 US-10-128-174-	14 US-10-128-174- 15 US-10-334-143- 14 US-10-369-978-	0 US-09-841-835-2 10 US-09-841-835-2 14 US-10-199-937-	15 US-10-648-512- 15 US-10-648-512- 15 US-10-648-512- 15 US-10-648-512- 15 US-10-648-512-	15 US-10-648-512-40 15 US-10-648-512-22 15 US-10-648-512-32 15 US-10-648-512-42 16 US-10-757-262-76 15 US-10-648-512-26	ALIGNMENTS 0701038 3A1 d P156 Antigens for the and Human Ehrlichioses US/10/701,038 11-04 S 60/423,573	nsis active surface	100.0%; Score 4310; DB 16; ilarity 100.0%; Pred. No. 3.6e-298; Conservative 0; Mismatches 0; GDIQDQSQQDQQGAVGAVGAVGBYIERERVAAPE
6.61	ល់ សំ សំ ស	ស់សំសំ	.5 765 .5 765 .5 765	.5 765 .5 3913 .5 1704	.4 1327 .4 1327 .4 1327	906 906 906 906	.3 1001 .3 1065 .3 1065 .2 1065 .1 1119 .1 1050	n US/1 1012143 1012143 1012143 1012143 10153 an 10153 an 10153 an 10153 an	chaf	100.04 ilarity 100.03 Conservative GDIQDQSQDQQEQDC
m				m m	·	าต๓๓๓	39 314.5 40 314.5 42 313.5 43 307.5 44 307.5 45 302.5	RESULT 1 US-10-701-038-2 ; Sequence 2, Applicatio ; Publication No. US200 ; APPLICANT: MCBRIGON: ; APPLICANT: MCBRIGON: ; TITLE OF INVENTION: ; TITLE OF INVENTION: ; TITLE REFERENCE: D648; CURRENT APPLICATION BINGONERSY FILING DATE: ; PRIOR APPLICATION NINGONERSY FILING DATE: ; PRIOR APPLICATION NINGONERSY FILING DATE: ; PRIOR APPLICATION NINGONERSY FILING DATE:	NUMB SEQ I LEN TYP ORG FEA OTH	Query Match Best Local Simila Matches 831; Cc Qy 1 PSGDI Db 1 PSGDI

```
297;
    Matches
                            8 8
                                                                                                                                                        g
                                                                                                                                                                                                          g
                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                                              Š
                                                                                                 g
                                                                                                                           ò
                                                                                                                                                                                     ઠ
                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                         240
                                                                   240
                                                                                             300
                                                                                                                                                                                                    420
                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                 99
                                                                                                                                                                                                                                                                                                                                                                                                                                          099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; Sequence 1. Application US/10701038; Sequence 1. Application No. US20040121433A1; Sequence 1. Application No. US20040121433A1; GENERAL INFORMATION:
APPLICANT: Welker, David H.
TITLE OF INVENTION: P153 and P156 Antigens for the Immunodiagnosis of TITLE OF INVENTION: Canine and Human Ehrlichioses and Uses Thereof; TITLE OF INVENTION: Canine and Human Ehrlichioses and Uses Thereof; TITLE OF INVENTION: Canine and Human Ehrlichioses and Uses Thereof; TITLE OF INVENTION: Canine and Human Ehrlichioses and Uses Thereof; TITLE OF INVENTION NUMBER: US/10/701,038; CURRENT PILING DATE: 2003-11-04; PRIOR PILING DATE: 2002-11-04; NUMBER OF SEQ ID NOS: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TVLHYA I SKGDSFLVQXI LAHTGVDVNCENNLGQTPLHLAVEGGDPKI VSSLLKAGAVVN
                                                        181 WLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVKG
                                                                                                           241 AKNVMTLMHLIVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCTGD
                                                                                                                                                               361 HHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKAS
                                                                                                                                                                                                                                                                     421 GADINVRNVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETV
                                                                                                                                                                                                                                                                                                                            LAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYK
                                                                                                                                                                                                                                                                                                                                                                                                                               PNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TVLHYAISKGDSFLVOXILAHTGVDVNCENNLGOTPLHLAVEGGDPKIVSSLLKAGAVVN
WLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVKG
                                                                                             AKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCTGD
                                                                                                                                                KLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGKNPL
                                                                                                                                                                                                    HHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKAS
                                                                                                                                                                                                                                                         GADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETV
                                                                                                                                                                                                                                                                                                          LAVINQRGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYK
                                                                                                                                                                                                                                                                                                                                                              GFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGS
                                                                                                                                                                                                                                                                                                                                                                           GFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGS
                                                                                                                                                                                                                                                                                                                                                                                                                 PNAKFLOHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16; Length 831;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADINLDGDHNILFDQCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1300.5; Di
Pred. No. 1e-83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Burface
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE: OTHER INFORMATION: immunoreactive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Ehrlichia canis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 2
US-10-701-038-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                       181
                                                                                             241
                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                               셤
                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                               a
                                                                                            ò
                                                                                                                                             ò
                                                                                                                                                                       g
                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                       ઠે
                                                                                                                                                                                                  ò
```

```
16;
                                                                                                                                                                                                                                                                                         125
                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     715
                                                                                                                                                                                                                     125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SCHILLE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCTGDK 301
                                                                        90
                                                                                                                                        65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Hyseq, Inc
TITLE OF INVENTION: No. US20030228584A1el Nucleic Acids and Polypeptides
FILE REFERENCE: 21272-045
CURRENY APPLICATION NUMBER: US/10/291,172
CURRENT FILING DATE: 2000-11-08
PRIOR APPLICATION NUMBER: 09/693,267
PRIOR FILING DATE: 2000-10-20
PRIOR APPLICATION NUMBER: 09/665,363
                                                                                                                                                                                                                                                                  66 IYQGIPGHQEEMEEDPYASLDQVSQGAGADGIQENPVPQEAGEELEEDIYQDPADFQGIG
                                                                                                                                                                                                                                                                                                                                                                                                           481 LAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | : ||:: ::| :::| || || ||:|| DVKIVKLIIENASGEEVNAQSDSTLIPLHLACIRGDGSIIKRMVEHESVNVNQTMGPDQN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QEA-QYDAAARAG---GPRKFLYGPYTFSNGOEIMDFEFDTPWPDVRNAVLGNKEIKEEW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVKGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HYAAE-----AASSE-----VLSYVIRNTKAE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421 GADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PNAKFLOHIOSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVN
                                                                                                              -----GY-----DDVGVSMPTVSR-----GIYQPPIVQDS-----NLY---SSIGGVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LKLCMEKTKTDFIDTANFANGSPLHIITQKPDCSVLDIEBFTSRNLDFGLVD-GDGKNPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKAS
   Gaps
   113;
                                                                        39 APESEDLYTVIIPKGKRTA-APILERKSPTPEPKVEDDEDLPPTLPPRTFSGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADINLDGDHNILFDQCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
   265;
   Conservative 156; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 343, Application US/10291172
Publication No. US20030228584A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 3
US-10-291-172-343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        959
                                                                                                                                                                                                                                                                                                                                                                         126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                7
                                                                                                                                                                                                                        91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     387
```

```
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 170 AVLGNKRIKE-------EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIF 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    216 MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEG 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   273 DIGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKP 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    185 HIEVVKL--LVSHGAEVTCKDKKSYTPLHAAAS-----SGMISVVKYLLDLGVDMNEP 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            393 DYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIH-VASSNGKANAVSGLV 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ::||| | | | | | : | | | | : | | | | : | | | | : | | | | : | | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | : | | : | : | | : | : | | : | : | | : | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GNGADVNMKSKDGKTPLHMTALHGRFSRSQTII-QSGAVIDCEDKNGNTPLHIAARYGHE 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       512 GVIKALGSAKPNIKGEDTVAKSLIMEDYKGFTPIHFVAGGGSRDTFRVVRKNYEKCHDLA 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ------LPSERGYNAMQ 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -KNTVLHYAISKG 730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       V-QSLLDLDVRNSSGRTPLDLAAFKGHVECVDVLINQGASILVKDYILKRTPIHAATNG 628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DSFLVQKILAH----TGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNG 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    49 AYLGDAEIIELLILSGARVNAKDSKWLT---PLH----RAVASCS-----EEAVQVLL 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         333 DCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     452 SCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             572 TI----RAALMODRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      655 VAALFGDKEAVKMLAKSAKPSDLNFKTS-----ATPTPLNLACLRGDNEVVRGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 1053;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
9.8%; Score 421; DB 15;
Best Local Similarity 25.2%; Pred. No. 7e-21;
Matches 189; Conservative 101; Migmatches 269;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RIALHRGAVIGHEE----CVDALLQHGA 710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RSVLSSAIVPGRKEKGVLGIVNKLLDRGA 815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   628 HNVMKDILN---FVGD-----SLH-----
PRIOR APPLICATION NUMBER: .09/616,847
PRIOR FILING DATE: 2000-07-14
PRIOR APPLICATION NUMBER: 09/596,193
PRIOR FILING DATE: 2000-06-17
PRIOR FILING DATE: 2000-05-19
PRIOR FILING DATE: 2000-05-9
PRIOR PRIOR APPLICATION NUMBER: 09/519,705
PRIOR FILING DATE: 2000-03-07
SRIOR FILING DATE: 2000-03-07
SRIOR PRIOR FILING DATE: 2000-13-07
SRIOR PRIOR FILING DATE: 1000-13-07
SRO ID NO 343
LENGTH: 1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VGQHGIDINQRMGSD---
                                                                                                                                                                                                                                                                                                                                     ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-291-172-343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

```
APPLICANT: Hyseq, Inc.
TITLE OF INVENTION: No. US20040034208A1el Nucleic Acids and Polypeptides
FILE REFERENCE: 21272-045
CURRENT PEPLICATION NUMBER: US/10/221,278
CURRENT FILING DATE: 2002-09-06
PRIOR APPLICATION NUMBER: 09/693,267
PRIOR PELING DATE: 2000-10-19
PRIOR PELING DATE: 2000-09-19
PRIOR PELING DATE: 2000-09-19
PRIOR PELING DATE: 2000-09-19
PRIOR PELING DATE: 2000-09-19
PRIOR PELING DATE: 2000-06-17
PRIOR PELING DATE: 2000-06-17
PRIOR PELING DATE: 2000-06-17
PRIOR PELING DATE: 2000-06-17
PRIOR PELING DATE: 2000-06-17
PRIOR PELING DATE: 2000-06-19
PRIOR PELING DATE: 2000-06-19
PRIOR PELING DATE: 2000-06-19
PRIOR PELING DATE: 2000-06-19
PRIOR PELING DATE: 2000-06-19
PRIOR PELING DATE: 2000-06-19
PRIOR PELING DATE: 2000-03-07
NUMBER OF SEQ ID NOS: 752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              170 AVLGNKEIKE------EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIF 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        216 MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEG 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                333 DCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIH-VASSNGKANAVSGLV 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  400 TPDDFGRTCLHAAAAGGNL-----ECLNLLLNTGADF---NKKDKFGRSPLHYAAANCN 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : :::||||::::||||451 YQCLFALVGSGASVNDLDERGCTPLHYAATSDTDGKCLEYLLRNDANPGIRDKQGYNAVH 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      273 DLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITOKP 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              452 SCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDI 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLA 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       511 YSAAYGHRLCLQLIA-SETPLDVLMETSGTDMLSDSDNRATISPLHLAAYHGHQALEVL 569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --KNTVLHYAISKG 730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TI----RAALMODRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSN 627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            49 AYLGDABIIBLLILSGARVNAKDSKWLT---PLH----RAVASCS------EEAVQVLL 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         185 HIEVVKL--LVSHGAEVTCKDKKSYTPLHAAAS-----SGMISVVKYLLDLGVDMNEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----LPSERGYNAMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ---ATPTPLNLACLRGDNEVVRGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
9.8%; Score 421; DB 15; Length 1053;
Best Local Similarity 25.2%; Pred. No. 7e-21;
Matches 189; Conservative 101; Mismatches 269; Indels 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KHSADVNARDKNWQTPLHIAAANKAVKCAEALVPLLSNV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        655 VAALFGDKEAVKMLAKSAKPSDLNFKTS----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              628 HNVMKDILN---FVGD----SLH----
   Application US/10221278
b. US20040034208A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   704 VGQHGIDINQRMGSD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Homo sapiens
Sequence 343, Applica
Publication No. US20
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-221-278-343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
```

266

437

437

590 543

```
VE-----NVLDSEGNLPLHH 292
                                                                                                                                                                                                                        153 VEMVNLLLAKGANINAFDKKÖRRALHWAÁYMGHLDVVALLINHGAEVTCKÖKKGYTPLHA 212
                                                                                                                                                                                                                                                                                                                    213 AASNGOINVVKHLLINLGVEIDEINVYGNTALHIACYNGODAVVNELIDYGANVNOPNNNG 272
                                                                                                                                                                                                                                                                                                                                                                    -SPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDH--- 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                325 LIONGGEIDCVDKD----GNTPLHVARYGHE--LLINTLITSGADTAKCGIHSMFPLHL 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNND 497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                591 DFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGY 650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                544 HRQCLELL ------LERTNSGFEESDSGATKS--------PLHL----- 573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              651 NAMOVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGID 710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INORMGSDKNTVLHYAISKGDSFLVQKIL--AHTGVDVNCENNLGQTPLHLAVEGGDPKI 768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              273 FTPLHPAAASTH-GALCLELLVNNGADVNIQSKDGKSPLHMTAVH------GRFTRSQT 324
--AFLGDAEIIELLILSGARVNAKDNWMLT---PLH----RAVASRS------EBAVQV 92
                                                                         214 IFMNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIV---KAL-GE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----LC---MEKTKTDFIDTANFANG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     379 -VKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    498 GVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----MQDRSGGELVN----LG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8.5%; Score 368.5; DB 15; Length 1330;
25.1%; Pred. No. 5.5e-17;
ive 87; Mismatches 262; Indels 183; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADI 817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 3237, Application US/10108260A
Publication No. US20040005560A1
GENERAL INFORMATION:
APPLICANT: HELLX RESEARCH INSTITUTE
TITLE OF INVENTION: No. US20040005560A1e1 full length cDNA
FILE REPRENCE: HIA-A0106
CURRENT APPLICATION NUMBER: US/10/108,260A
CURRENT FILING DATE: 2002-03-27
NUMBER OF SEQ ID NOS: 5458
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 3237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---GGSRDTFRVVRKNYEKCHDLATIRAAL-
                                                                                                                                                                                                                                                                           293 AAKNCTGDKLK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 25.1
Matches 178; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 6
US-10-108-260A-3237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TYPE: PRT
; ORGANISM: Homo E
US-10-108-260A-3237
                              49
                                                                                                                                                                          267
                                                                                                                                                                                                                                                                                                                                                                         323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                694
                                                                                                                     g
                                                                                                                                                                        ઠે
                                                                                                                                                                                                                     원
                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                    8
                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       35;
  | | : | : | | | : | | 510 V-QSLLDLDVRNSSGRTPLDLAAFKGHVECVDVLINQGASILVKDYILKRTPIHAAATNG 628
                                                                         731 DSFLVQKILAH----TGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNG 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 168 RNAVLGNKEIKE------EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDI 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9 QPPLVQ-----AIFSGDPEEI------RMLIHK----TEDVNTLDSEKRTPLHVA 48
                                                                                                        629 HSECLRILIGNAEPQNAVDIQDGN--GQTPLMLSVLNGHTDCVYSLLNKGANVDAKDKWG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
8.7%; Score 373.5; DB 17; Length 1056;
Best Local Similarity 23.9%; Pred. No. 1.7e-17;
Matches 198; Conservative 101; Mismatches 303; Indels 227; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   108 OPPIVODSNLYSSIGGVPQEAQYDAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: STRUCTURAL AND CYTOSKELETON-ASSOCIATED PROTEINS THE REPERENCE: PF-1007 USN CURRENT APPLICATION NUMBER: US/10/479, 764
CURRENT FILING DATE: 2003-12-04
                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: TANG, Y. Tom; WARREN, Bridget A.;
APPLICANT: TANG, Tom; WARREN, Bridget A.;
APPLICANT: HONGHELL, Cynthia D.; RICHARDSON, Thomas W.;
APPLICANT: YUE, Henry; BATRA, Sajeev;
APPLICANT: YUE, Henry; BATRA, Sajeev;
APPLICANT: GRIFFIN, Jennifer A.; BAUGHN, Mariah R.;
APPLICANT: EMERLING, Brooke M.; SANJANWALA, Madhusudan M.;
APPLICANT: KHAN, Farrah A.; LU, Dyung Aina M.;
APPLICANT: KHAN, April J.A.; MGUTEN, Danniel B.;
APPLICANT: HAFALIA, April J.A.; MGUTEN, Danniel B.;
APPLICANT: BECKH, Shanya D.; YAO, MONIQUE G.;
APPLICANT: GETZEN, Kimberly J.; LUO, Wen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LEE, Ernestine A.; ISON, Craig H.; LASEK, Amy W.
                                                                                                                                                                          787 RSVLSSAIVPGRKEKGVLGIVNKLLDRGA 815
                                                                                                                                                                                                         CURRENT FILING DATE: 2003-12-04
PRIOR APPLICATION NUMBER: PCT/US02/17956
PRIOR PILING DATE: 2002-06-06
PRIOR PILING DATE: 2002-06-06
PRIOR PELING DATE: 2001-06-07
PRIOR APPLICATION NUMBER: US 60/296,865
PRIOR PILING DATE: 2001-06-08
PRIOR PILING DATE: 2001-06-08
PRIOR PILING DATE: 2001-06-15
PRIOR PILING DATE: 2001-06-15
PRIOR PELING DATE: 2001-06-15
PRIOR PELING DATE: 2001-06-29
PRIOR PELING DATE: 2001-06-29
PRIOR PELING DATE: 2001-06-29
PRIOR PILING DATE: 2001-06-29
PRIOR PELING DATE: 2001-06-29
PRIOR PELING DATE: 2001-06-29
PRIOR PILING DATE: 2001-07-06
PRIOR PELING DATE: 2001-07-12
PRIOR PELING DATE: 2001-07-12
PRIOR PELING DATE: 2001-07-12
PRIOR PELING DATE: 2001-07-12
PRIOR PELING DATE: 2001-07-12
PRIOR PELING DATE: 2001-07-12
PRIOR PELING DATE: 2001-07-12
PRIOR PELING DATE: 2001-07-12
PRIOR PELING DATE: 2001-07-12
PRIOR PELING DATE: 2001-07-12
PRIOR PELING DATE: 2001-07-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: misc feature
; OTHER INFORMATION: Incyte ID No: 489786CD1
US-10-479-764-18
                                                                                                                                                                                                                                                                                                                                                Sequence 18, Application US/10479764
Publication No. US20050027103A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 18 .
LENGTH: 1056
                                                                                                                                                                                                                        687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT
                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                          à
                                                                                                                                                                                                                   셤
                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
```

26;

35;

Gaps

224

```
-----DGNHIPLAGVHDMNTGMTPLMYATKDNKTAIMDRMIELGADVGARNNDNYNV- 163
                                                                                                                                                                                                                                                                                                                                    342 -FTSRNLDFGL-VDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTI 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   225 ISNPLHADVDNNPVKGAKNVMT-LMHLVYAC-DVDPRIVKALGEVENDEGDLGANAYNVL 282
                                                                                                                                                                                                                                                                                                               283 DSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE- 341
                                                                                                                                                                                                                                                                                                                                                                                                      AHYAVKUKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNS 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIKGEDTV------AKSLL 535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              450 VETLLGFGADVHVRGGKLRET-----PLHIAARVKDGDRCALMLLKSGASPNLTTD 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              330 ADNODRTPMHLAAENGHAHVIEILADKFKASIFERTKDGSTLMHIASLNGHAECATMLFK 389
                                                                                                                                     SSLTGPPDESATPSERATPASKADSDPK----DDSSSNGDKKDMDL-FPAPKPPSAGASI
                                                                                                                                                                                 -DVRNAVLGNKEIKEEWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                536 MEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATI----RAALMQDRSG-----
                                                                                                                  SSIGGVPQEA----QYDAAARAGGPRKFLYGPYTFSNG-QEIMDFEFDTPWP-
                                                                                Conservative 133; Mismatches 299; Indels 236;
                                                    Length 1619;
                                                                                                                                                                                                    Score 368; DB 14;
Pred. No. 7.9e-17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-108-260A-4122

Sequence 4122, Application US/10108260A

; Publication No. US20040005560A1

; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ODVNGDTPLHIAVEGGSMETV---
                                                   8.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ||:||:||
777 QLLLELGANIDATDD 791
OTHER INFORMATION: sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NKLLDRGADINLDGD
                                                 Query Match
Best Local Similarity
Matches 187; Conserva
        ;
US-10-369-978-4
                                                                                                                  119
                                                                                                                                                22
                                                                                                                                                                                 166
                                                                                                                                                                                                                                                                                                                                                                                                                                               400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              808
                                                                                                                                                                                                                                                                                                                                               164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              695
                                                                                                                                           g
                                                                                                                                                                                                              g
                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                           요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                               433
                    230
                                                                                                                                                                  -----GLTPLHCAARSGHDQVVELLLERGAPLLARTKN--GLSPLHMAAQ---- 320
                                                                                                                                                                                                                                                                                                     362 LLLDKRANP-----NARALNGFTPLHIACK-KNR-IKVMELLVKYGASIQAITESGLT 412
                                                                                                                                                                                                                                                                                                                                                                                                                535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                569
                                                                                274
                                                                                                                277
                                                                                                                                             GANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDPIDTANFANQSPLHIITQKPDC 334
                                                                                                                                                                                                                373
                                                                                                                                                                                                                                           434 PIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSV 493
                                                                                                                                                                                                                                                                                                                                                                            PIHVAAFMGHLNIVLLLLQNGASPDVTNIRGETALHMAARAGOVEVVRCLL-RNGALVDA 471
                                                                                                                                                                                                                                                                                                                                                                                                                                 ----MEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLG 590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            651 NAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGID 710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  610 TPLHIAAKKNQMQIASTLLNYG--AETNIVTKQGVTPLHLASQEGHTDMYTLLLDK-GAN 666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INORMGSDKN--TVLHYAISKGDSFLVOKILAHTGVDVNCENNLGQTPLHLAVEGGDPKI 768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 166 TKGKVRLPALHIAARKDDTKSAALLLQNDHNADVQSKWMVNRT--TESGFTPLHIAAHYG
                                                                                -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKAL----GEVENDEGDL
                                                                                                              224 NVNVATLLINRGAAVDFT----ARNGITPLH-VASKRGNTNMVKLLLDRGGQIDAKTRD-
                                                                                                                                                                                                                                                                             374 GVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRA
                                                                                                                                                                                                                                                                                                                                                                                                             494 QNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNI------KGEDTVAKSLL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           532 GAAHSLATKKGFTPLHVAAKYGSLDVAKL------LLQRRAAAD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           591 DFESENILGSPNAKFLOHIOSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----SAGKNGLTPLHVAAHYDNOKVALLLLE-KGASPHATAKNGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Channel
                 TSGPVRDIADRIVASKGD-----LSEDQVEEILDIIFMNESEIAEGISNPLH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VASLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADIN 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Malker, Charles S.
APPLICANT: Walker, Richard G.
APPLICANT: Willingham, Aarron
APPLICANT: Willingham, Aarron
APPLICANT: Willingham, Asarron
TITLE OF INVENTION: A Eukaryotic Mechanosensory Transduction Chan
FILE REPERBENCE: 023078-09760043
CURRENT APPLICATION WUMBER: US/10/369,978
CURRENT PILLING DATE: 2003-02-18
FRIOR APPLICATION NUMBER: US/09/392,812A
PRIOR FILLING DATE: 1999-09-09
NUMBER OF SEQ ID NOS: 17
SOSTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OTHER INFORMATION: amino acid sequence derived from nompC cDNA
                                                                                                                                                                                                            335 SVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 4, Application US/10369978
Publication No. US20030152991A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1619
                                                                                231
                                                                                                                                                                             278
                                                                                                                                                                                                                                                                                                                                                                            413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          723
                                                                                                                                                                                                                                             321
                                                                                                                                                                                                                                                                                                                                                                                                                                             472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                              8
                                                                              ð
                                                                                                        셤
                                                                                                                                          8
                                                                                                                                                                          셤
                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
```

```
KDILNFVGDSLHLP-----SERGYNAM-----QVAALFGDKEAVKMLAKSA 672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ::: | : | |: | | | :: | | | :: | | | :: | | | :: | | | :: | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | :: | | :: | | :: | :: | | :: | | :: | :: | | :: | :: | | :: | :: | | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | ::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |:| ::| || :|| 611 ADVTLQTKTALETAFHYCAVAGNNDVLMEMISHMNPTDIQKAMNRQSSVGWTPLLIACHR 670
------GELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVM 631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----KPSD----LNFKTSATPIPLNLACLR 694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GDNEVVRGLVGQHG-IDINQRMGSDKNTVLHYAISKG-----DSFLVQKILAHTGVDVNC 748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           501 DCLTPVHVAARHGNLATLMQLLEDE--GDP-----LYKSNTGETPLHMACRACHPDIV 551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ENNLGQTPLHLAVEGGDPKIVSSLLK-AGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIV 807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KSRVGRTALHLAAMNGFTHLVKFLIKDHNAVIDILTLRKQTPLHLAAASGQMB-----VC 776
```

```
US20030152991A1
                                                                                                                                                               SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                 NUMBER OF SEQ ID NOS: 17
                                                                                                                                                                                      LENGTH: 1709
                                                                                                                                                                                                                                                         J OTHER THEOMY
                                                                                                                                                                                                                                                                                                                                                                                                                                         203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        518
                                                                                                                                                                                                                                                                                                                                                               20
                                                                                                                                                                                                                                                                                                                                                                                        159
                                                                                                                                                                                                                                                                                                                                                                                                                109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               555
                                                                                                                                                                          SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       283
                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             윉
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                        31,
                                                                                                                                                                                                                                                                268
                                                                                                                                                                                                                                                                                                                 294
                                                                                                                                                                                                                                                                                                                                                                323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -- EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIF 215
                                                                                                                                                                                                                                                                                                                                        130 MVNLLLAKGANINAFDKKDRRALHWAAYMGHLDVVALLINHGAEVTCKDKKGYTPLHAAA 189
                                                                                                                                                                                                                                                                                                                                                                                        190 SNGQINVVKHLLNLGVEIDEINVYGNTALHIACYNGQDAVVNELIDYGANVNQPNNNGFT 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QNGGEIDCVDKD----GNTPLHVAARYGHE--LLINTLRTSGADTAKCGIHSMFPLHLAA 355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               440 SNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGV 499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNA 652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 653 MQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDIN 712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               250 PLHFAAASTH-GALCLELLVNNGADVNIQSKDGKSPLHMTAVH-----GRFTRSQTLI 301
                                                                                                                                                                                                                                       69
                                                                                                                                                                                                                                                                               24 AFLGDAEIIELLILSGARVNAKDNMWLT---PLH----RAVASRS------EEAVQVLI
                                                                                                                                                                                                                                                               216 MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIV---KAL-GEVE
                                                                                                                                                                                                                                                                                                                 ------BULDSEGNLPLHHAA
                                                                                                                                                                                                                                                                                                                                                                295 KNCTGDKLK-----S
                                                                                                                                                                                                                                                                                                                                                                                                                PLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDH----V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               380 KNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -GGSRDTFRVVRKNYEKCHDLATIRAAL-------MQDRSGGELVN----LGDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QCLELL------PLHL------PLHL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QRMGSDKNTVLHYAISKGDSFLVQKIL--AHTGVDVNCENNLGQTPLHLAVEGGDPKIVS
                                                                                                                                                                                        Gaps
                                                                                                                                                                                        205;
                                                                                                                                                               DB 15; Length 919;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                771 SLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADI 817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
APPLICANT: HELIX RESEARCH INSTITUTE
TITLE OF INVENTION: No. US20040005560Alel full length cDNA
FILE REPERENCE: HI-A0106
CURRENT APPLICATION WHOER: US/10/108,260A
CURRENT APPLICATION WHOER: US/27
NUMBER OF SEQ ID NOS: 5458
SECTWARE: PALENTIN Ver. 2.1
SEQ ID NO 4122
LENGTH: 919
                                                                                                                                                               8.5%; Score 364.5; DB 15;
24.0%; Pred. No. 6.1e-17;
iive 95; Mismatches 283;
                                                                                                                                                                                                                                                                                                                 -----NDEGDLGANAY-
                                                                                                                                                                          Best Local Similarity 24.0 Matches 184; Conservative
                                                                                                                          ; ORGANISM: Homo sapiens
US-10-108-260A-4122
                                                                                                                                                                                                                170 AVLGNKEIKE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       302
                                                                                                                                                                                                                                                                                       70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        521
                                                                                                                                                                                                                                                                                                                 269
                                                                                                                                                                                                                                                                                                                                                                                                                324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         663
                                                                                                                TYPE: PRT
                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                    임
                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                ઠ
```

; Sequence 6, Application US/10369978

RESULT 9 US-10-369-978-6

```
108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | | | | : : | | : | | | : E-DLAMADPQTKILYFAK-RDEWANVESEIETIKRSDFSMADNHGFTAFLLAVKAGKDQI 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      : : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CERKSKKAFPIVKRILE-----DTDQRM------AEDGDGSLPIHLAFKFGNVNIVELLL 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HIITQKPDCSVLD-----IEEFTSRNL------DFGLVDGDGKNPLHHAVEHLPPV 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TL-----FN----MLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVN-- 458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -- 635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SGPSDEQTRKADGNGDTLLHLAAR--SGN-----IEAVRTAIAAGCDNANVQNRVGRTPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            H----ECLIVIGIOKGYVAEVGDONMLKIMFKLRADANIHDKEDKTPVHVAAERGDIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSR-----DTFRVVRK--NYEKCHD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LATIR----AALMODRSGGELVNLGDFESENILGSPNAKFLOHIOSANFGFSPARRGIVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --ADR----IVASKGDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEDOVE-----LHAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----DSEGNLPLHHAAKNCTGDKLKLCMEKTKTDF---IDTANFAN---QSPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----VKNKNADL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                383 MVESLID-----KFGGSIRARTRDGSTLLHIAACSGHTSTALAFLKRVPLFMPNKKGAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           459 -SQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GELMDGETCLHIAARSGNKDIML--LLDENADSKISSKIGETPLQVAAKKCNFBAASMI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      108 QPPIVQDSNLYSSIGG-----VPQEAQYDAAA---RAGGPRKFLYGPYTFSNGQEIMDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDL------GANAYNVL-
APPLICANT: Zuker, Charles S.
APPLICANT: Walker, Richard G.
APPLICANT: Walker, Richard G.
APPLICANT: Wallingham, Aarron
APPLICANT: The Regents of the University of California
TITLE OF INVENTION: A Eukaryotic Mechanosensory Transduction Channel
FILE REFERENCE: 023078-097600US
CURRENT APPLICATION NUMBER: US/10/369,978
PRIOR PILING DATE: 2003-02-18
PRIOR PLILING DATE: US/09/392,812A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         genomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1709;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: amino acid sequence derived from nompC OTHER INFORMATION: sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            371 ILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYA------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match

8.1%; Score 351; DB 14;
Best Local Similarity 21.1%; Pred. No. 1.4e-15;
Matches 196; Conservative 134; Mismatches 326;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EFDTPWPDVRNAVLGNKEIKEEWLTTSGPVRDI--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SNHNVMKDIL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

17;

Gaps

```
323 SPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNS 382
                                                                                                                                                                                                                                                                              -----ASPHA-----AKNGYT 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              255 PLHIAAKKNOMDIATTLLEYGADA-NAVTRQGIASVHLAAQGGHVDMVSLLL--GRNANV 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 312 NLSNKSGLTPLHLAAQEDRVNVAEVLVNQGAHVDAQTKMG---YTPLHVGCHYGNIKIVN 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                383 SEFQD---LVNDPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVAS 439
                                                                                                                                                                                                                                               440 SNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGV 499
                                                                                                                                                                                                                                                                                                                                                500 TPMLSAAKYGDIGVIKAL--GSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTF 557
                                                                                                                                                                                                                                                                                                                                                                                              188 TPLHVAAKYGKLEVANLLLQKSASPDAAGK-----SGLTPLHVAA---HYDNQ 232
                                                                                                                                                                                                                                                                                                                                                                                                                                              558 RVVRKNYEKCHDLATIRAALMODRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFS 617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  618 PARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKPSDL 677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                678 NFKTSATPTPLNLACLRGDNEVVRGLVGQHG-IDINQRMGSDKNTVLHYAISKGDSFLVQ 736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               737 KILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVP 796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          369 FLLQHS-AKVNAKTKNGYTPLHQAQQGHTHIINVLLQNNASPNELTVNGNTALGIA--- 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Lee, Kevin
APPLICANT: Dixon, Alistair
APPLICANT: Brookbank, Robert
APPLICANT: Pinnock, Robert
TITLE OF INVENTION: Identification and Use of Molecules Implicated in Pain
                                                                                                ---AFMGHVNIV 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               184 ISGPVRDIADRIVASKGDLSEDQVEBILDIIFMNES----EIAEGISNPLH-----
     86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 14; Length 1762;
     Mismatches 206; Indels
                                                                                                23 TPLHIACKKNRIKVMEL--LLKHGASIQAVTESGLTPIHVA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .6e-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8.0%; Score 345.5;
24.8%; Pred. No. 3.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KV-----ALLLDQG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/10/205,194
CURRENT FILING DATE: 5200-07-24
PRIOR APPLICATION NUMBER: GB 0118354.0
PRIOR FILING DATE: 2001-07-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 117, Application US/10205194; Publication No. US20030134301A1; GENERAL INFORMATION: APPLICANT: Warner-Lambert Company APPLICANT: Lee, Kevin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Ankyrin isoform
     75;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             797 GRKEKGVLGIVNKL 810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         : | : |: |
425 --RRLGYISVVDTL 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: Rattus norvegicus
     Matches 127; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILE REFERENCE: WL-A-018201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQ ID NOS: 177
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-205-194-117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-205-194-117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 1762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    169;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                     8
                                                                                              셤
                                                                                                                                                   ò
                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ⋩
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                         671 GHSGVANILLKVLVL/CVGPGPGPRLQGRGYWTRTRARVTVPWLQYQGYWARTRTRTRA 730
                                                                                           731 RATGPGLQDQGYWARTRTRTKVTVPRLLGDHHARIDVFDEMGRTALHLAAFNGHLSLVHL 790
                                                                                                                                                                                            791 LLQ--HKAFVNSKSKTGEAPLHLAAQHGHVKVVNVLVQDHGAAL-EAITLDNQTALHFAA 847
                                                                                                                                                                                                                                               783
                                                                                                                                              LAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKNTVLHYAI
                                                                                                                                                                                                                                             728 SKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKA----GAVVNRLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: LASEK, AMY W.
TITLE OF INVENTION: STRUCTURAL AND CYTOSKELETON-ASSOCIATED PROTEINS
FILE REFERENCE: PP-1007 USN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1094;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: TANG. Y. Tom; WARREN, Bridget A.;
APPLICANT: TANG. Y. Tom; WARREN, Bridget A.;
APPLICANT: HONCHELL, Cynthia D.; RICHARDSON, Thomas W.;
APPLICANT: ELLIOTT, Vicki S.; CHAMLA, Narinder K.;
APPLICANT: GRIFFIN, Jennifer A.; BAUGHN, Mariah R.;
APPLICANT: GRSYTHE, Ian J.; BURFORD, Nail;
APPLICANT: EMERLING, Brocke M.; SANJANWALA, Madhusudan M.;
APPLICANT: HAFALIA, April J.A.; NGUYEN, Danniel B.;
APPLICANT: HAFALIA, April J.A.; NGUYEN, Danniel B.;
APPLICANT: HAFALIA, Shanya D.; YAO, Monique G.;
APPLICANT: GREEN, Kimberly J.; LUO, Wen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Σ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8.1%; Score 350; DB 17; 25.7%; Pred. No. 8.5e-16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: misc_feature
OTHER INFORMATION: Incyte ID No: 8013295CD1
                                                                                                                                                                                                                                                                                                                                           784 DNGRSVLSSAIVPGRKEKGVLGIVNKLL 811
                                                                                                                                                                                                                                                                                                                                                                            PRIOR FILING DATE: 2002-06-06
PRIOR APPLICATION NUMBER: US 60/296,865
PRIOR FILING DATE: 2001-06-07
PRIOR APPLICATION NUMBER: US 60/296,878
PRIOR FILING DATE: 2001-06-08
PRIOR FILING DATE: 2001-06-18
PRIOR FILING DATE: 2001-06-15
PRIOR FILING DATE: 2001-06-29
PRIOR FILING DATE: 2001-06-21
PRIOR FILING DATE: 2001-06-21
PRIOR FILING DATE: 2001-06-29
PRIOR FILING DATE: 2001-06-29
PRIOR FILING DATE: 2001-06-29
PRIOR FILING DATE: 2001-06-29
PRIOR FILING DATE: 2001-06-29
PRIOR FILING DATE: 2001-06-29
PRIOR FILING DATE: 2001-06-29
PRIOR FILING DATE: 2001-06-29
PRIOR FILING DATE: 2001-07-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/10/479,764
CURRENT FILING DATE: 2003-12-04
PRIOR APPLICATION NUMBER: PCT/US02/17956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR FILING DATE: 2001-07-12
PRIOR APPLICATION NUMBER: US 60/343,557
PRIOR FILING DATE: 2001-12-01
NUMBER OF SEQ ID NOS: 50
SOFTWARE: PERL PROGRAM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 22, Application US/10479764
Publication No. US20050027103A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 22
LENGTH: 1094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-479-764-22
                                                                                                                                              899
                                                                                                                                                                                       g
                                                ò
                                                                                              셤
                                                                                                                                            ò
                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                        원
                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                      g
```

œ

```
셤
                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                         ਨੇ
                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                         δ
                                                                              461
                                                                                                                                                                       520 AKPNI------KGEDTVAKSLL-----MEDYKGFTPLHFVAGGGSRDTFR 558
                                                                                                                                                                                                                                           619 ARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKPSDLN 678
                                                                                                                                                                                                                                                     FKTSATPTPLNLACLRGDNEVVRGLVGQH-GIDINQRMGSDKNTVLHYAISKGDSFLVQK 737
                                                                                                                                                                                                                                                                                      738 ILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPG 797
                                                                                                                                                                                                                                                                                                                       -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV 281
                                                                                                                                                 244 VATLLLINRAAAVDFT----ARNDITPLH-VASKRGNANMVKLL-----LDRGAK-IDA
                                 282 LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE
                                                 291 KTRDGLTPLHCGARSGHEQVVEMLLDRAAPILSKŤKN--GLSPLHMATÓGDHLNCVQL--
                                                                                                                                      VNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS
                                                                                                                                                                                                       559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSP
                                                                  PTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH
                                                                                                   402 YAVKUKNADLILENMLKASGADLNVRNVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD
                                                                                                                    400 IACK-KNR-IRVMELLLKHGASIQAVTESGLTPIHVAAFMGHVNIVSQLMHGASPNTTN
                                                                                                                                                                                                                         -----ASPLILOKS-----ASPDA-----ASKSGLTP
                                                                                                                                                                                                                                                                                                                                                                                                     765 -AQQCHTHIINVLLQNNASPN 784
                                                                                                                                     462
                                                                                                                                                                                                                                                                            619
                                                                                셤
                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                               ò
                                               셤
                                                                                                   δ
                                                                                                                  g
                                                                                                                                                  ద
                                                                                                                                                                     ò
                                                                                                                                                                                   셤
                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                              ò
             셤
                                 ò
                                                                  ò
                                                                                                                                  ठे
```

```
33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PTLPP---RTFSGE-----GYDDVGVS--MPTVSRGIYQPPIVQDSNLYSSIGGV 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            54 PCLPPDAARTFAASVSPLPSIYLAKISDFGLSKWMEQSTRMQY----IERSALRGMLSYI 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              POEAQYDAAARAGGPRKFLYGPYTF-SNGQEIMDFEFDTPWPDVRNAVLGNKE----- 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---IKEEWLITSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADV 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           : | | | : : : | | : EALVIWELLTQKKPYSELTSQLKERKG-----FNWMMIII----RVTAGMRPSLQPVS 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | | | : :: || : : || | DOMPSE-AQOWUDLMKRCW--DQDPKKRPCFLDITIETDILLSLLQSRVAVPESKALARK 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----GEVENDEGDLGANAYNVLDSEGNLPLHHA----AKNCTGDKLKLCMEKT 309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         263 VSCKLSLRQPGEVNED----ISQELMDSDSGNYLKRALQLSDRKNLVPRDEELCIYEN 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KV-----TPLHFLVAQG--SVEQVRLLLAHEVDVDCQTASGYTPLLIAAQDQQP 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNV 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ------DLCALLLAHGADANRVDE 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVA 549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGSPNAKFLQHI 609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QSA-----NFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMOVAALFGD 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LKSGAVPDALDQSGYGPLHTAAARGKYLICKMLLRY-GASLBLPTHQGWTPLHLAAYKGH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PPE-MFLESNKAPGPKYDVYSPPTLPPRAGVILDVQ------LSHSBRVLCIHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              430 VGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                THÖI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEAVKWLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGOHGIDINORMGSDKN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KTDFIDTANFANQSPLHIITQKPDCSVLDIEBFTSRNLDFGLVDGDGKNPLHHAVEHLPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 8.0%; Score 344; DB 15; Length 720; Best Local Similarity 21.9%; Pred. No. 1.2e-15; Matches 178; Conservative 113; Mismatches 269; Indels 254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; NAME/KEY: misc_feature
; OTHER INFORMATION: Incyte ID No: 3566882CD1
US-10-433-794-20
PRIOR FILING DATE: 2000-12-14
PRIOR APPLICATION NUMBER: US 60/256,172
PRIOR FILING DATE: 2000-12-15
PRIOR APPLICATION NUMBER: US 60/257,416
PRIOR APPLICATION NUMBER: US 60/257,416
PRIOR PILING DATE: 2001-01-22
PRIOR APPLICATION NUMBER: US 60/260,912
PRIOR PILING DATE: 2001-01-10
PRIOR FILING DATE: 2001-01-25
PRIOR APPLICATION NUMBER: US 60/266,017
PRIOR FILING DATE: 2001-02-02
NUMBER OF SEQ ID NOS: 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNNPVKGAKNVMTLMHLVYACDVDP-
                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 720
                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       177
```

```
RESULT 14
US-10-182-243-56
; Sequence 56, Application US/10182243
; Publication No. US20040048310A1
; GENERAL INFORMATION:
; APPLICANT: PLOWMAN, GREGORY D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-182-243-56
                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        409
                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                        g
                                                                                          요
                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27;
             ---TVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLK 774
                                610 AEQSGWTPLHLAVQRSTFLSVINLLEH-HANVHARNKVGWTPAHLAALKGNTAILKVLVE 668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----ADVDNN 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  237 PVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKN 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66 TKKG----NTALHIASLAG-QAEVVKVL--VTN----GANV-NAQSQNGFTPLYMAAQE 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDG 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDY---FGNTIAHYAVKNKNADLTL 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           594 SENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAM 653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----ANPNAKALN-----GFTPLHIACKKNRIKVMELLLKH-GASIQAVTERGETAL 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 654 QVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQ 713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 43, Application US/09964899
Fatent No. US20020174446A1
GENERAL INFORMATION:
APPLICANT: Cohen, Dalia et al.
TITLE OF INVENTION: Alzheimer's Disease Using Drosophila Melanogaster
FILER REFERENCE: 4-131612
FILER REFERENCE: 4-131612
CURRENT APPLICATION NUMBER: US/09/964,899
CURRENT FILING DATE: 2001-09-27
FRIOR APPLICATION NUMBER: 60/236,893
FRIOR PELLING DATE: 2000-09-29
FRIOR PELLING DATE: 2000-06-14
NUMBER OF SEQ ID NOS: 53
SOFTWARE: FateSEQ for Windows Version 4.0
SEQ ID NO 43
LENGTH: 1724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           160 KGKV-----RLPALHIAARKDDTKAAALLLQNDNNADVESKSGFTPLHIAAHYGNINVAT 214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            414 FUMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVE 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           474 GGSMETVLAVLNORGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | | | : | | | : | : | : | : | : | SGH-EQVVEMILDRAAPILSKTKNGLSPLAMATQGDHINCVQLL--LQHNVPVDD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      534 LLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMODRSGGELVNLGDFE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels 124; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1724;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 8.0%; Score 343; DB 9; L
Best Local Similarity 24.3%; Pred. No. 5.3e-15;
Matches 157; Conservative 101; Mismatches 263;
                                                                                                 AGA---QLDVQDGVSCTPLQLALRSRKQGIMSFL 699
                                                                        775 AGAVVNRLD-DNGRSVLSSAIVPGRKEKGVLGIV 807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     197 ASKGDLSE--DQVEEILDIIFMNESEIAEGISNPLH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Homo Sapien
US-09-964-899-43
                                                                                                                                                                      -09-964-899-43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11
                                                                                                       699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  400
             721
             ઠ
                                       셤
                                                                        ઠે
                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
```

```
28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          268 -WDQDPKKRPCFLDITIETDILLSLLQSRVAVPBSKAL-----ARKVSCKLSLR 315
                                              457 ATTSG-YTPLHLSAREGHEDVAAFLLDH-GASLSITTKSGLTPLHVAAHYDNQKVALLLL 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     163 DFGLSKWMEQSTRMQY----IERSALRGMLSYIPPE-MFLESNKAPGPK---YDVYSFA- 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        214 ---IVIWELLTQKKPYSGFNMMIIIRVAAGMRPSLQPVSDQWPSRAQQMVDLMKRC--- 267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          429 WAPLHFAAQNGDDGTARLLLDHGACVDAQEREGWTPLHLAAQ-NNFENVARLLVSRQADP 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DVGVS--MPTVSRGIYQPPIVQDSNLYSSIGGVPQEAQYDAAARAGGPRKFLYGPYTFSN 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              152 GQEIMDFEFDT---PWPDVRNAVL-----GNKEIKEEWLTTSGPVRDIADRIVAS 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          252 YACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKT 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   316 QPGEVNEDISQEL--MDSDSGNYLKRALQLSDRKNLVPRDE-------ELCIYENKV 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            312 DFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVI 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         372 LKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVG 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQS 611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---IOHLLK 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       432 RAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADV 491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGG 551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: WHYTE, DAND
APPLICANT: WANNING, GERARD
APPLICANT: WANNING, GERARD
APPLICANT: SUDABSANAM, SUCHA
APPLICANT: WARTINEZ, RICHAD
APPLICANT: WARTINEZ, RICARDO
TITLE OF INVENTION: RICARDO
TITLE OF INVENTION: RICARDO
TITLE OF INVENTION: RICARDO
TITLE OF INVENTION: WHERE: US/10/182,243
CURRENT FILING DATE: 2003-07-07
PRICA APPLICATION NUMBER: PCT/US01/02337
PRICA FILING DATE: 2001-01-25
NUMBER OF SEQ ID NOS: 84
SOFTWARE: PATENTIN VET. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   199 KGDLSEDOVEEILDI-----IFMNESEIAEGISNPLHADVDNNPVKGAKNVMTLMHLV
714 RMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----hicapinkvded
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 7.6%; Score 327; DB 15; Length 765; Best Local Similarity 21.4%; Pred. No. 2.2e-14; Matches 161; Conservative 121; Mismatches 262; Indels 208;
                                                                                                                                             774 KAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADIN 818
                                                                                                                                                                                        538 GK---
```

```
g
                                                  ò
                                                                       g
                                                                                             ò
                                                                                                                             g
                                                                                                                                                           ò
                                                                                                                                                                                g
                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                   721 ----TVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAG 776
                                                                                                                        549 SGAVPDALDQSGYGPLHTAAARGKYLICKMLLRY-GASLELPTHQGWTPLHLAAYKGHLE 607
612 A-----NFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKE
                                                  664 AVKWLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKN---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: LASEK, Amy W.
TITLE OF INVENTION: STRUCTURAL AND CYTOSKELETON-ASSOCIATED PROTEINS
FILE REFERENCE: PF-1007 USN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 17; Length 1250;
                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: TANG, Y. Tom; WARREN, Bridget A.;
APPLICANT: TANG, Y. Tom; WARREN, Bridget A.;
APPLICANT: HONCHELL, Cynthia D.; RICHARDSON, Thomas W.;
APPLICANT: ELIGOTT, VICKI S.; CHAMLA, Narinder K.;
APPLICANT: FORSYTHE, Jan J.; BURPORD, Neil;
APPLICANT: FORSYTHE, Jan J.; BURPORD, Neil;
APPLICANT: EMERLING, Brooke M.; SANJAWALA, Madhusudan M.;
APPLICANT: HAN, Farrah A.; LU, Dyung Aina M.;
APPLICANT: HANG, Junming; LI, Joana X.;
APPLICANT: BECHA, Spril J.A.; NGUYEN, Danniel B.;
APPLICANT: ARG, Junming; LI, Joana X.;
APPLICANT: GERTZEN, Kimberly J.; LUO, Wen;
APPLICANT: GERTZEN, Kimberly J.; LUO, Wen;
                                                                                                                                                                                                                                                                                                                                                                              Σ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 7.6%; Score 326.5; DB 17; Best Local Similarity 22.7%; Pred. No. 4.9e-14; Matches 168; Conservative 116; Mismatches 250;
                                                                                                                                                                              777 AVVNRLD-DNGRSVLSSAIVPGRKEKGVLGIV 807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; OTHER INFORMATION: Incyte ID No: 2780338CD1
US-10-479-764-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/479,764 CURRENT FILING DATE: 2003-12-04
                                                                                                                                                                                                                                                       Sequence 1, Application US/10479764
Publication No. US20050027103A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: misc
                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                               셤
                                                                     셤
                                                                                               à
                                                                                                                                                            ઠે
                                                                                                                                                                                    셤
                      용
                                                  ઠે
```

```
545
WLTTSG-PVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNN--- 236
                                                                                                                                        371
                                                                                                                                                                                                                         352 VDGDGKKNPLHHA-----VEHLPPVILKGVM--------------------------DHVKNSSEF 385
                                                                                                                                                                                                                                                                                                                            428 TDQDGWTALRSAAWGGHTEVVSALLYAGVKVDCADADSRTALRAAAWGGHEDIVLNLLQH 487
                                                                                                                                                                                                                                                                                                                                                                                         440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     546 KGHASVVSLLIDRGAEVDHCDKDGMTPLLVAAYEGHVD-VVDLLLEGGADVDHTDNNGRT 604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENI 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGY---NAMQ 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  703 -----IPFILASQEGHYDCVQILLENKSNI------DQRGYDGRNALR 739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----TPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKNTVLHYAISKGDSFLVQKILAH 741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              742 TG-VDVNCENNLGOTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKE 800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         856 GAVVDHTC--NQGATALCIAAQEGHIDVVQVLLEHGADPNHADQFGRTAMRVAAKNGHSQ 913
                                                                                                                                                                                           HAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGL 351
                                                                                                                         PMLSAAKYGDIGVIKAL---GSAKPNI-------KGEDTVAKSLL------ME
                                           295 WMIWNGTPVRDSLSTLIPKE-----QEVLQLL------VKAGAHVNSEDDRTS
                                                                                           ----PVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLH
                                                                                                                                                                                                                                                                                                                                                                                         386 QDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVA----SS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  665 DDAGWIPLHMAAFEGHR-----LICEALIEÒGARTNEIDNDGR----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  655 VAALFGDKEAVKMLAKSAKPSDLNFK-TSATP-----
                                                                                                                                      CIVROALEREDSIRTLL-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              801 KGVLGIVNKLLDRGADINLDG 821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          : |||:: :|:|
-----IIKLLEKYGASSING 928
                                                                                                                                        337
                                                                                                                                                                                           292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         914
181
                                                                                             237
```

completed: February 26, 2005, 19:06:48 Search completed: Fe Job time : 147 secs

28;

Indels 207; Gaps

```
GenCore version 5.1.6
GenCore version 5.1.6
GenCore version 5.1.6
GenCore version 5.1.6
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model
Run on: February 26, 2005, 18:45:13; Search time 50 Seconds
(without alignments)
1599.123 Million cell updates/sec
Title: US-10-701-038-2
Berfect score: 4310
Sequence: 1 PSGDIQPQSQQDQQEQDQQQ......DRGADINLDGDHNILFDQCL 831
Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5
Searched: 283416 seqs, 96216763 residues
```

Post\_processing: Minimum Match 0%

Maximum Match 100%
Listing first 45 summaries

Database: PIR 79:\*
1: pir1:\*
2: pir2:\*
3: pir2:\*
4: pir4:\*

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Description	ankyrin 1, erythro	1,	٦,	er,	-	'n	m	'n	m	'n	2, neuro	hypothetical prote	alpha-latrotoxin p	probable ankyrin -	ankyrin - fruit fl	ankyrin-related un	alpha-latroinsecto	Inv protein - mous	inversin - mouse	gene Ankhzn protei	hypothetical prote	_			u	hypothetical prote	death-associated p		hypothetical prote
SUMMARIES	B35049	A35049	SJHUK	S37771	I49502	T42714	T42715	T42713	T42716	A55575	S37431	T42691	S11527	H71274	T13940	T15347	S30355	T14151	T30255	T00253	T46445	T19552	AE2149	T27499	I50404	T43458	137275	D86167	T46507
<b>DB</b>	7	7	Н	7	~	0	0	7	~	~	~	~	~	-	~	~	~	7	~	~	7	~	~	N	~	~	-	7	7
Length	1856	1880	1881	1848	1862	1765	1940	1943	1961	4377	3924	791	1401	934	1549	2039	1411	1062	1062	1184	397	1188	426	633	907	1031	1423	643	557
& Query Match	9.1	9.1	9.1	8.9	8.9	٠	٠	•	•	•	S.8	•	٠	7.9	٠	7.8	7.4	7.3	•		٠	6.1	5.9	5.9	5.8	•	5.3		5.2
Score	391.5	391.5	390.5	382.5	381.5	378.5	378.5	378.5	378.5	377.5	368.5	345	344	342	339.5	334.5	321	313.5	313.5	269.5	269	263	255	254	250	249	227	225.5	2
Result No.		7	m	4	Ŋ	9	7	80	6	10	11	12	13	14	15	16	17	18	19			22		24	25	56	27	28	29

```
GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OHG--IDINORMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | || || || || : :| :| :| : | : :| CHIDIVILLKNGASPNEVSSDGTTPLAIA-----KRLGYISVTDVLKVVTDETSFVLVS 799
erythrocyte #status predicted <MA2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HRVAKVLLDKGAKPNSRALN--GFTPLHIACKKNHVRVMELLLKTGASID--AVTESGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LLPRG------GSP-----HSPAWN-GYTPLHIAAKQNQVEVARSLLQY-GGSANAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ------AKVNAKAKDDQTPLHCAARIGHTNMVKLLLENNANPNLATTAGHTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9.1%; Score 391.5; DB 2; 26.0%; Pred. No. 1.2e-14; ative 100; Mismatches 246;
                                                                           homology <AN03>
homology <AN04>
homology <AN05>
homology <AN06>
homology <AN06>
homology <AN07>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <AN21>
                                                                                                                                                                                                                                           <AN09>
                                                                                                                                                                                                                                                                       <AN10>
                                                                                                                                   homology
homology
homology
homology
homology
homology
homology
                                                                                                                                                                                                                                                                                                                                                                                                        homology
homology
homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   homology
homology
homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              homology
homology
                                                                                                                                                                                                                                                                                                                                                     homology
homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative 100,
                                                                      Filto-142/Domain: analytin repeat home pilto-204/Domain: 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F;700-732/Domain:
F;733-765/Domain:
F;766-798/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  M.C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A35049

ankyrin 1, erythrocyte splice form 2 - human
NyArin 1, erythrocyte splice form 2 - human
NyArin 1, erythrocyte splice form 2 - human
NyAlternate names: ankyrin 2.2, erythrocyte; ankyrin-R
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Accession: A35049
R;Lambert, S.; Yu, H.; Prchal, J.T.; Lawler, J.; Ruff, P.; Speicher, D.; Cheung, M.C.;
R;Lambert, S.; Yu, H.; Prchal, J.T.; Lawler, J.; Ruff, P.; Speicher, D.; Cheung,
R;Tile: cDNA sequence for human erythrocyte ankyrin.
A;Reference number: A35049
A;Atcession: A35049
A;Accession: A35049
A;Residues: 1-1880 < LAM>
A;Residues: 1-1880 < LAM>
A;Residues: 1-1880 < LAM>
A;Coss-references: UNIPROT:P16157; GB:M28880
C;Genetics: Terences: GDB:118737; OMIM:182900
A;Cross-references: GDB:118737; OMIM:182900
A;Genetics: Terences: GDB:118737; OMIM:1829
                                                                                                                                                                                                                                                                                                                                                                              460
                                                                                                                                                                                                                                                                                                                                                                                                                                    467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   585
                                                                                                                                         301 KTKNGLSPIHMAAQGDHLD--CVRLLLQYDAEIDDI-----TLD---HLTPLHVAAHCG 349
                                                                                                                                                                                                                                                                                                                            407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SERGYNAMOVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    745 GHTDIVTLLLKNGASPNEVSSDGTTPLAIA----KRLGYISVTDVLKVVTDETSFVLVS 799
                                                        ---TPLHCAARNGHVRISEILLDHGAPIQA
                                                                                                                                                                                                                                                   LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD
  ---GA---
                                                                                                          --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT
                                                                                                                                                                                                                  GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK
                                                                                                                                                                                                                                                                                                                            NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK
                                                                                                                                                                                                                                                                                                                                                                                                                                    NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ------AKVNAKAKDDQTPLHCAARIGHTNMVKLLLENNANPNLATTAGHTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG
RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  566 GKN------GLTPLHVAVHHNNLDIVKL-
                                                     KLLLDRGAQIETKTKDEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               821 GDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 800 DKHRMSFPE 808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             586
                                                                                                                                                                                                                                                                                                                                                                                                                                    408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        646
                                                                                                          242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                       셤
                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                            셤
                                                                                                          ò
                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                      જે
                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
```

31,

241

407 460 467

645 631

```
ankyrin, erythrocyte - mouse
C;Species: Mus musculus (house mouse)
C;Date: 27-May-1994 #sequence_revision 03-Aug-1995 #text_change 09-Jul-2004
C;Accession: 837771
R;Birkenmeier, C.S.; White, R.A.; Peters, L.L.; Hall, E.J.; Lux, S.E.; Barker, J.E.
A;Title: Complex patterns of sequence variation and multiple 5' and 3' ends are found an A;Reference number: 837771; MUID:93252825; PMID:8486643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Molecule type: mRWA
Ksesidues: 1-1804 cBIR.
A;Cross-references: UNIPROT:061302; EMBL:X69063; NID:9311816; PIDN:CAA48801.1; PID:9311:
C;Superfamily: ankyrin; ankyrin repeat homology
                                                                                                                                            31;
                                                                                                                                                                                                                     --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT 298
                                                                                                                                                                                                                                                                                                             406 TPLHVASFMGHLPIVKNLLQRGASPNVSNVK----VETPLHMAARAGHTEVAKYLLQNK 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL----LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                745 GHTDIVTLLLKNGASPNEVSSDGTTPLAIA----KRLGYISVTDVLKVVTDETSFVLVS 799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----AKVNAKAKDDQTPLHCAARIGHTNMVKLLLENNANPNLATTAGHTP 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LHIAAREGHVETVLALL-EKEASQACMTKKGFTPLHVAAKYGKVRVAELLLERDAHPNAA 565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GEDTVAKSLIMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE 585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     586 LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       689 KHGVMVDATTRMG---YTPLHVASHYGNIKLVKFLLQHQ-ADVNAKTKLGYSPLHQAAQQ 744
                                                                                                                                                                                                                                                                                                                                                                              299 GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LLPRG------GSP-----HSPAWN-GYTPLHIAAKONQVEVARSLLQY-GGSANAE 631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ĠKN------ĠLTPLHVAVHHNNLĎIVKL--------
                                                                                                                                               Gaps
                                                                                                                                            149;
                                                                                         Score 390.5; DB 1; Length 1881;
Pred. No. 1.4e-14;
                                                                                            Query Match 9.1%; Score 390.5; DB 1; Length 1 Best Local Similarity 26.0%; Pred. No. 1.4e-14; Matches 174; Conservative 100; Mismatches 246; Indels
                                                                                                                                                                                           194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK--
F;828-1382/Domain: 62K #status predicted <DOM2>
F;828-1382/Region: spectrin binding
F;1383-1881/Domain: 55K #status predicted <DOM3>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             800 DKHRMSFPE 808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Accession: S37771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    646
                                                                                                                                                                                                                                                                                  242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 4
                                                                                                                                                                                                                                    원
                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: protein
A;Residues: 2-7;'X', 9-17,'X', 19-20,'T',22-30;733-749,'A',751-753;828-833,'X',835-855,'X'
X',1367;1383-1427;1601-1630;1686-1698,'D',1700;1763-1772 <LUX>
B;Horten, J.; Barel, M; Frade, R.
Biochem. Biochys Pan A; Frade, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                           ;Residues: 1-1481 <LU1>
:Cross-referendes: UNIPROT:P16157; EMBL:X16609; NID:g28701; PIDN:CAA34610.1; PID:g28702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R.Davis, L.H.; Bennett, V.
J. Biol. Chem. 265, 10589-10596, 1990
ArTitle: Mapping the binding sites of human erythrocyte ankyrin for the anion exchanger
A;Reference number: A35443; MUID:90285190; PMID:2141335
                                                                                                                                                                                                       C.Species: Homo'sapiens (man)
C.Species: Homo'sapiens (man)
C.Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 09-Jul-2004
C.Accession: S08275, A33129; PC2220; A35443
R;Lux, S.E.; John, K.M.; Bennett, V.
Nature 344, 36-42, 1990
A.Title: Analysis of cDNA for human erythrocyte ankyrin indicates a repeated structure A.Reference number: S08275; MUID:90158830; PMID:2137557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Molecule type: protein
A;Residues: 'X',5,'X',7-12;403-417,'X',419-422,'H',424,'LQ';797-800,'L',802-814;862-863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biochem. Biophys. Res. Commun. 204, 453-460, 1994
A;Title: Human drythrocyte ankyrin, a cytoskeleton component, generates the p57
A;Reference number: PC2220; MUID:95071348; PMID:7526850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gene: GDB:ANKI; ANK
;Cross-references: GDB:118737; OMIM:182900
;Map position: 8p11.2-8p11.2
;Superfamily: ankyrin; ankyrin repeat homology
;Superfamily: ankyrin; ankyrin repeat homology
;2-1881/Product: ankyrin 1, erythrocyte form 1 #status predicted <MAT1>
;2-1881/Product: ankyrin 1, erythrocyte form 1 #status predicted <MAT2>
;2-1871,1675-1881/Product: ankyrin 2.2, erythrocyte #status predicted <MAT2>
;2-827/Domain: 89K #status predicted <DOM1>
;2-827/Region: anion exchange protein binding
;44-76/Domain: ankyrin repeat homology <AN01>
                                                                                                                                                                ankyrin 1, erythrocyte splice form 1 - human
NiAlternate names: ankyrin 2.1, erythrocyte; ankyrin-R
NiContains: ankyrin 2.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               homology <AN03>
homology <AN04>
homology <AN05>
homology <AN06>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <AN08>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <AN10>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <AN11>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <AN13>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <AN15>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <4N18>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <AN21>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <AN07>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <AN16>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <AN23>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77-109/Domain: ankyrin repeat homology <AN02>
110-142/Domain: ankyrin repeat homology <AN03:
143-171/Domain: ankyrin repeat homology <AN04:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       homology
homology
homology
homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           homology
homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  homology
homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          homology
homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            romology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nomology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10mology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               72-204/Domain: ankyrin repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   205-237/Domain: ankyrin repeat 238-270/Domain: ankyrin repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11-303/Domain: ankyrin repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            304-336/Domain: ankyrin repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ankyrin repeat
  GDHNILFDQ 829
                                           DKHRMSFPE 808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ankyrin r
ankyrin r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Molecule type: protein
Residues: 910-929 <HER>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                          A, Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Accession: PC2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             403-435/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 436-468/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F;766-798/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               337-369/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     370-402/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            469-501/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 502-534/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5-567/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           568-600/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              634-666/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            00-732/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    667-699/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  733-765/Domain:
  821
                                                800
    ઠે
                                              g
```

g191940

PID

```
C)Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-Jul-2004
C)Accession: 149502
R;White, R.A.; Birkenmeier, C.S.; Peters, L.L.; Barker, J.B.; Lux, S.E.
R;White, R.A.; Birkenmeier, C.S.; Peters, L.L.; Barker, J.B.; Lux, S.E.
A;Title: Murine erythrocyte ankyrin cDNA: Highly conserved regions of the regulatory don A;Reference number: 149502; MUID:92345717; PMID:1386265
A;Accession: 149502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------YFGNTIA 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DHLDCVRLLLQYNAEIDDITLDHLTPLHVAAHCGHHRVAKVLLDKGAKPNSRALNGFTPL 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HYAVKNIKNADIJILFINMLKASGADLINVRINVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQ 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--G 518
                                                                                                                                                                                                                                                                     A;Residues: 1-1862 <RES>
A;Cross-references: UNIPROT:Q02357; GB:M84756; NID:g191939; PIDN:AAA37236.1;
C;Genetics:
                                                                                                                         C.Species: Mus musculus (house mouse)
C.Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQ---SPLHIITQKPDCSVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  221 IAEGISNPLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DI-----LVDGDGKNPLHHA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels 151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match

8.9%; Score 381.5; DB 2;
Best Local Similarity 26.0%; Pred. No. 4.6e-14;
Matches 179; Conservative 101; Mismatches 257;
                                                                                                                                                                                                                                                         A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <AN07>
                                                                                                                                                                                                                                                                                                                                                                                                                      F;106-138/Domain: ankyrin repeat homology <AN03>
F;139-167/Domain: ankyrin repeat homology <AN04>
F;168-200/Domain: ankyrin repeat homology <AN05>
F;240-233/Domain: ankyrin repeat homology <AN05>
F;241-266/Domain: ankyrin repeat homology <AN06>
F;267-299/Domain: ankyrin repeat homology <AN07>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <AN10>
                                                                                                                                                                                                                                                                                                                                                        ankyrin repeat homology
                                                                                                                                                                                                                                                                                                                             A;Gene: Ank-1
C;Superfainly: ankyrin; ankyrin repeat homolog:
C;Keywords: alternative splicing
F;40-72/Domain: ankyrin repeat homology <AN01>
810
                    SSNGTTPLAIA-----KRLGYISVTDVL 790
783 DDNGRSVLSSAIVPGRKEKGVLGIVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                        homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 homology
homology
homology
homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat
repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ankýrin repeat
ankýrin repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ankyrin
ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ankyrin n
ankyrin n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ankyrin
ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F;201-233/Domain: a
F;234-266/Domain: a
F;367-299/Domain: a
F;300-332/Domain: a
F;333-365/Domain: a
F;366-398/Domain: a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     366-398/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F;762-794/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F;597-629/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F;630-662/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      531-563/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F;696-728/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F;432-464/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F;465-497/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F;498-530/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     564-596/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F;663-695/Domain:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              364
                            168
                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ---HSPAWN-GYTPLHIAAKQNQIEVARSLLQY-GGSANAESVQGVTPLHLAAQEGHTEM 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQ---SPLHIITQKPDCSVL 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          338 DI-----LVDGDGKNPLHHA--- 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -------YPGNTIA 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DHŁDCVRLLLQYNAEIDDITLDHLTPLHVAAHCGHHRVAKVLLDKGAKPNSRALNGFTPL 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQ 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--G 518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        497 GASPNLATTAGHTPLHTAAREGHVDTALALLEKEASQACMTKKGFTPLHVAAKYGK---V 553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RVVRKNYEKCHD-----LATIRAALMQDRSGGELVNLGDFESENIL---GSPNAK 604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEA 664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHG--IDINQRMGSDKNTV 722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LHYAISKGDSFLVOKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRL 782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 221 IAEGISNPLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   519 SAKPNI------KGEDTVAKSLLMED-----YKGFTPLHFVAGGGSRDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels 151;
                                                                                                                                                                                                                                                                                                                                                                                                           Length 1848;
                                                                                                                                                                                                                                                                                                                                                                                                         n 8.9%; Score 382.5; DB 2;
Similarity 26.2%; Pred. No. 4e-14;
80; Conservative 98; Mismatches 259;
                                                                                                                                                                               <AN11>
                                                                                                                                                                                                                                            <AN15>
                                                                                                                                                              <AN10>
                                                                                              <AN06>
                                                                                                                              <AN08>
                                                                                                                                               < ANO 9 >
                                                                                                                                                                                                                                                                                             <AN18>
                                                                                                                                                                                                                                                                                                            <AN19>
                                                                                                                                                                                                                                                                                                                           <AN20>
                                                                                                                                                                                                                                                                                                                                            <AN21>
                                                                                                                 <AN07>
                                                                                                                                                                                                              <AN13>
                                                                                                                                                                                                                              <AN14>
                                             4-146/Domain: ankyrin repeat homology <AN03>
ywords: alternative splicing
-80/Domain: ankyrin repeat homology <AN01>
-113/Domain: ankyrin repeat homology <AN02>
                                                                                            homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
                                                                                                                                                                                                                                                                                                            homology
homology
                                                                                                                                                                                                                                                                                                                                                           homology
                                                              147-175/Domain: ankyrin repeat
176-208/Domain: ankyrin repeat
                                                                                                                                                             repeat
repeat
                                                                                                                                                                                                                                                                                                                                                           repeat
                                                                                                                                                                                             repeat
                                                                                                                                                                                                                                            repeat
repeat
                                                                                              209-241/Domain: ankyrin repeat
                                                                                                                            275-307/Domain: ankyrin repeat: 308-340/Domain: ankyrin repeat
                                                                                                                                                                                                                             repeat
                                                                                                                 repeat
                                                                                                                                                                                                                                                                            repeat
                                                                                                                                                                                                                                                                                           ankyrin repeat
                                                                                                                                                                                                                                                                                                              repeat
                                                                                                                                                                                                                                                                                                                           repeat
                                                                                                                                                                                                                                                                                                                                            repeat
                                                                                                                                                                                                                           ankyrin r
ankyrin r
ankyrin r
                                                                                                                                                                                                                                                                                                                           ankyrin
ankyrin
                                                                                                                                                                                             ankyrin
ankyrin
                                                                                                                                             308-340/Domain: ankyrin
341-373/Domain: ankyrin
374-406/Domain: ankyrin
                                                                                                                 12-274/Domain: ankyrin
                                                                                                                                                                                                                                                                          ankyrin
                                                                                                                                                                                                                                                                                                            ankyrin
                                                                                                                                                                                                                                                                                                                                                           ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Sim:
Matches 180;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   461
```

S C

ઠે 셤 ò

ò 셤 ò 요

셤 ò 셤 ઠે 유 ઠ 셤 8 셤 ሯ

ò

```
TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2716

TA2716

TA2716

TA2716

TA2716

TA2716

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715

TA2715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: UNIPROT:Q61307; EMBL:L40632; NID:9710548; PID:9710549; PIDN
A;Experimental source: strain C57BL/6J; kidney
C;Genetics:
                                                                                                                                                                                                                                                                                                                                   618
   389 IACK-KNR-IRVMELLLKHGASIQAVTESGLTPIHVAAFMGHVNIVSQLMHGASPNTTN 446
                                                                                                                                                                                                                                                                         563
                                                                                                                                                                                                                                                                                                                                                                                                                                                     619 ARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKPSDLN 678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PKTSATPTPLNLACLRGDNEVVRGLVGQH-GIDINQRMGSDKNTVLHYAISKGDSFLVQK 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AVTRQGIASVHLAAAQEGHVDMVSLLLSRNANVNLSNKSGL---TPLHLA-AQEDRVNVAE 697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      :| ||| |: :: ::: | | | |280 KTRDGLTPLHCGARSGHEQVVEMLLDRSAPILSKTKN--GLSPLHMATQGDHLNCVQL-- 335
                                                                                                                                                                                                                                                                                                                                                                                           -----AGKSGLTP 584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            738 ILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPG 797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180 TKGKVRLPALHIAARKDD-----TKAAALLLQNDTNADVESKSGFT-PLHIAAHYGNIN 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             233 VATLLINRAAAVDFT----ARNDITPLH-VASKRGNANMVKLL-----LDRGAK-IDA 279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              282 LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                342 FTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | | : | | : | | : | | | : | | | IHVAAHYDNQKVALILILD-QGASPHAAAKNGYTPLHIAAKKNQMDIATSLLEYG--ADAN
                                                                                            VNGDTPLHIAVEGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS
                                                                                                                              AKPNI ------KGEDTVA-----KSLLMEDYKGFTPLHFVAGGGSRDTFR
                                                                                                                                                                                                                                                                  506 ASPNAATTSGYTPLHLAAREGHEDVAAFLLDHGASLSITTKKGFTPLHVAAKYGKLEV--
                                                                                                                                                                                                                                                                                                                                   559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    184 ISGPVRDIADRIVASKGDLSEDQVEEILDIIFMNES----EIAEGISNPLH----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Score 378.5; DB 2; Length 1940; ; Pred. No. 7.5e-14; 98; Mismatches 275; Indels 133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Introns: 834/1
C;Superfamily: ankyrin; ankyrin repeat homology
C;Keywords: alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RKEKGVLGIVNKLLDRGADIN 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -AQQCHTHIINVLLQNNASPN 773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 25.7%;
Matches 175; Conservative 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Map position: 10
                                                                                                                                                   447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          619
                                                                                                                                                                                                              520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         231
                                                                                            462
                                                                                                                                                                                                                                                                                                                                                                                           564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Gene: Ank3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 7
                                 셤
                                                                                                                                    q
                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-referendes: UNIPROT:Q61307; EMBL:L40632; NID:g710548; PID:g710551; PIDN:AAB01609
A;Experimental Gource: strain C57BL/67; kidney
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Accession: T42714
R;Peters, L.L.; John, K.M.; Lu, F.M.; Bicher, B.M.; Higgins, A.; Yialamas, M.; Turtzo, I
J. Cell Biol. 130, 313-330, 1995
A;Title: Ank3 (epithelial ankyrin), a widely distributed new member of the ankyrin gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27;
---HSPAWN-GYTPLHIAAKQNQIEVARSLLQY-GGSANAESVQGVTPLHLAAQEGHTEM 646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | :| :| :| | | | | | 647 VALLL--SKQANGNLGNKSGLTPILHLVSQEG-HVLVADVLIKHGVTVDATTRMG---YTP 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           489 GASPNLATTAGHTPLHTAAREGHVDTALLEKEASQACMTKKGFTPLHVAAKYGK---V 545
                                                                                                                                                                                                        558 RVVRKNYEKCHD-----GSPNAK 604
                                                                                                                                                                                                                                                605 FLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEA 664
                                                                                                                                                                                                                                                                                                                                                                                                                                                  665 VKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGOHG--IDINQRMGSDKNTV 722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRL 782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180 TKGKVRLPALHIAARKDD-----TKAAALLLQNDTNADVESKSGFT-PLHIAAHYGNIN 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         233 VATLILINRAAAVDFT----LDRGAK-IDA 279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      282 LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANGSPLHIITQKPDCSVLDIEE 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      402 YAVKONKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  142/14
ankyrin 3, splide form 2 - mouse
C;Species: Mus musculus (house mouse)
C;Date: 11-Jan-2000 #sequence_revision 11-Jan-2000 #text_change 09-Jul-2004
                                                                                         SAKPNI -----YKGFTPLHFVAGGGSRDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               184 TSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNES----EIAEGISNPLH-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              342 FTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 8.8%; Score 378.5; DB 2; Length 1765; Best Local Similarity 25.7%; Pred. No. 6.4e-14; Matches 175; Conservative 98; Mismatches 275; Indels 133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the repeat domain.

A;Reference number: 222237; MUID:95340633; PMID:7615634
A;Accession: T44714
A;Status: preininary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-1765 < PET>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Superfamily: ankyrin; ankyrin repeat homology C;Keywords: alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         783 DDNGRSVLSSAIVPGRKEKGVLGIVNKL 810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              760 SSNGTTPLAIA----KRLGYISVTDVL 782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Map position: 10
A; Introns: 1587/1
                                                                                         519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                      ò
                                                                                                                                                염
                                                                                                                                                                                                  ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 1-1961 oFFT-
A;Cross-references: UNIPROT:061307; EMBL:L40632; NID:g710548; PID:g710552; PIDN:AAB01607
A;Experimental source: strain C57BL/6J; kidney
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ankyrin 3, splice form 4 - mouse
C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Date: 11-Jan-2000 #sequence_revision 11-Jan-2000 #text_change 09-Jul-2004
C;Accession: T42716
R;Peters, L.L.; John, K.M.; Lu, F.M.; Eicher, E.M.; Higgins, A.; Yialamas, M.;
Cell Biol. 130, 313-330, 1995
A;Title: Ank3 (epithelial ankyrin), a widely distributed new member of the ankyrin gene the repeat domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27;
                                                                                                                                                                                                                                                                                                                                             446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     230
                                                                                                                                                                      401
                                                                                                                                                                                                                            388
                                                                                                                                                                                                                                                                                       461
                                                                                                                                                                                                                                                                                                                                                                                                      519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FKTSATPTPLNLACLRGDNEVVRGLVGQH-GIDINQRMGSDKNTVLHYAISKGDSFLVQK 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .--- 753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      389 IACK-KNR-IRVMELLLKHGASIQAVTESGLTPIHVAAFMGHVNIVSQLMHHGASPNTTN
                                                                                                                                                                                                                                                                                                                                                                                                                                         | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | : | | : | : | | : | : | | : | : | : | : | : | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  738 ILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPG
233 VATLLLNRAAAVDFT----ARNDITPLH-VASKRGNANMVKLL-----LDRGAK-IDA
                                                        LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE
                                                                                                                                                                                                                                                                                       402 YAVKUKNADLILENMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD
                                                                                                                                                                                                                                                                                                                                                                                                         VNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----AGKSGLTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                619 ARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKPSDLN
                                                                                               342 FTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AKPNI -----KGEDTVA----KSLLMEDYKGFTPLHFVAGGGSRDTFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels 133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNES----EIAEGISNPLH---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Reference number: 222237; MUID:95340633; PMID:7615634
A;Accession: T42716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 378.5; DB 2;
Pred. No. 7.6e-14;
3; Mismatches 275;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Map position: 10
C;Superfamily: ankyrin; ankyrin repeat homology
C;Keywords: alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----ASLLLQKS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RKEKGVLGIVNKLLDRGADIN 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8.8%;
llarity 25.7%;
Conservative 98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 175; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                    280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            585
                                                        282
                                                                                                                                                                                                                                                                                                                                                                                                            462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C; Genetics:
                                                                                                           g
                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                               ઠે
                                                                                                                                                                   ઠે
                                                                                                                                                                                                                음 &
                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Reference number: 222237; MUID:95340633; PMID:7615634
A;Accession: T42713
A;Accession: T42713
A;Accession: T42713
A;Accession: T42713
A;Accession: T42713
A;Accession: T42713
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET>
A;Residues: 1-1943 <PET
A;Residues: 10
A;Introns: 855/1
C;Function: Ank3
A;Residues: 10
A;Introns: 855/1
C;Function: Apposed to play an important role in the polarized distribution of many A;Note: major kidney ankyrin repeat homology
C;Reywords: alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Accession: T42713 T. T. C; Accession: T42713 T. Turtzo, I R; Peters, L. L.; John, K. W.; L. W.; Bicher, B. M.; Higgins, A.; Yialamas, M.; Turtzo, I J. C. Call Biol. 130, 313-330, 1995 A; Title: Ank3 (epithalial ankyrin), a widely distributed new member of the ankyrin gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                679 FKTSATPTPLNLACLRGDNEVVRGLVGQH-GIDINQRMGSDKNTVLHYAISKGDSFLVQK 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              738 ILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPG 797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hkyrin 3, splice form 1 - mouse
|Species: Mus musculus (house mouse)
|Species: Mus musculus (house mouse)
| Date: 11-Jan-2000 #sequence_revision 11-Jan-2000 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                            |: | : | : | : | : | : | ILQHNVPVDDVTNDYLTALHVAAHCGHYKVAKVLLD--KKASFNAKALN----GFTPLH
                                                                                                                             YAVKNINADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD
                                                                                                                                                                                                       VNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS
                                                                                                                                                                                                                                                             447 VRGETALHMAARSGQAE-VVRYLVQDGAQVEAKAKDDQTPLHISARLGKADIVQQLLQQG
                                                                                                                                                                                                                                                                                                                        -----KGEDTVA-----KSLLMEDYKGFTPLHFVAGGGSRDTFR
                                                                                                                                                                                                                                                                                                                                                                                                                                      559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----AGKSGLTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  619 ARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMOVAALFGDKEAVKMLAKSAKPSDLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNES----EIAEGISNPLH----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels 133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1943;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
8.8%; Score 378.5; DB 2;
Best Local Similarity 25.7%; Pred. No. 7.5e-14;
Matches 175; Conservative 98; Mismatches 275;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----ASLLLQKS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RKEKGVLGIVNKLLDRGADIN 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -AQQCHTHIINVLLQNNASPN 773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the repeat domain
                                                                                                                                                                                                                                                                                                                     520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                      402
                                                                                                                                                                                                       462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ankyrin 3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                        셤
                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                   8
```

1,02

```
---- 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TKGKVRLPALHIAARKDD-----TKAAALLLQNDNNADVESKSGFT-PLHIAAHYGNIN 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   353 LLQHNVPVDDVTNDYLTALHVAAHCGHYKVAKVLLDKKANP-----NAKALNGFTPLH 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VNGDTPLH1AVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --KGEDTVA-----KSLLMEDYKGFTPLHFVAGGGSRDTFR 558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENIL----GSPNAKFLQHIQSANF 614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               282 LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FISRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          464 VRGETALHMAARSGQAE-VVRYLVQDGAQVEAKAKDDQTPLHISARLGKADIVQQLLQQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ------KYGKLEVANLLLOKSASPDA-----AGKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SDLNFKTSATPTPLNLACLRGDNEVVRGLVGQH-GIDINQRMGSDKNTVLHYAISKGDSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            523 ASPNAATTSGYTPLHLSAREGHEDVAAFLLDHGASLSITTKKGFTPLHVAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       184 TSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNES----EIAEGISNPLH---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 4377;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 8.8%; Score 377.5; DB 2; Best Local Similarity 25.5%; Pred. No. 3.2e-13; Matches 175; Conservative 92; Mismatches 277;
                                                                                                                                    <AN12>
                                                                                                                                                                                                                                                                                                              <AN19>
                                                                                    <AN10>
                                                                                                                                                                                       <AN14>
                                                                                                                                                                                                                 <AN15>
                                                                                                                                                                                                                                      <AN16>
                                                                                                                                                                                                                                                              <AN17>
                                                                                                                                                                                                                                                                                                                                                                   <AN21>
                                     AN08>
                                                                                                                                                                                                                                                                                         <AN18>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               794 IVPGRKEKGVLGIVNKLLDRGADIN 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         :: | | | | | | 190
                                  homology
homology
homology
homology
                                                                                                                                                         homology
homology
homology
homology
                                                                                                                                                                                                                                                                                         homology
homology
                                                                                                                                                                                                                                                                                                                                                                   homology
F;267-299/Domain: ankyrin repeat hor F;300-332/Domain: ankyrin repeat hor F;300-332/Domain: ankyrin repeat hor F;339-431/Domain: ankyrin repeat hor F;399-431/Domain: ankyrin repeat hor F;453-464/Domain: ankyrin repeat hor F;458-497/Domain: ankyrin repeat hor F;458-50/Domain: ankyrin repeat hor F;511-563/Domain: ankyrin repeat hor F;597-629/Domain: ankyrin repeat hor F;597-629/Domain: ankyrin repeat hor F;597-629/Domain: ankyrin repeat hor F;630-662/Domain: ankyrin repeat hor F;630-662/Domain: ankyrin repeat hor F;630-662/Domain: ankyrin repeat hor F;630-662/Domain: ankyrin repeat hor F;63-695/Domain: ankyrin repeat hor F;63-695/Domain: ankyrin repeat hor F;63-695/Domain: ankyrin repeat hor F;630-662/Domain: ankyrin repeat hor F;63-695/Domain:                                                                                                                                                                                                                                                                                                                                          F;696-728/Domain: ankyrin repeat
F;729-761/Domain: ankyrin repeat
                                                                                                                                                                                                                                                                                                                                                                                        F;762-794/Domain: ankyrin repeat
                                                                                                                                                                                                                                                                                                                                                                                                                   F;795-827/Domain: ankyrin repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AKPNI ----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ર્જ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A,Molecule type: mRNA
A,Residues: 1-4377 <KOR>
A,Cross-references: UNIPROT:Q12955; GB:U13616; NID:g608024; PIDN:AAA64834.1; PID:g608025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   at the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A map position: 10q21-10q21
C; Superfamily: unassigned ankyrin repeat proteins; ankyrin repeat homology; EGF
C; Superfamily: unassigned ankyrin repeat protein membrane protein
C; Keywords: alternative splicing; peripheral membrane protein
F; 73-105/Domain: ankyrin repeat homology <AN02>
F; 106-138/Domain: ankyrin repeat homology <AN03>
F; 106-138/Domain: ankyrin repeat homology <AN03>
F; 172-200/Domain: ankyrin repeat homology <AN04>
F; 172-200/Domain: ankyrin repeat homology <AN05>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Accession: A55575
R;Kordeli, E.; Ljambert, S.; Bennett, V.
J. Biol. Chem. 270, 2352-2359, 1995
A;Title: Ankyrin-G. A new ankyrin gene with neural-specific isoforms localized A;Reference number: A55575; MUID:95138209; PMID:7836469
                                                                                                                                                                                                                                                                                                                                           519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          618
                                                                                                                                                    280 KTRDGLTPLHCGARSGHEQVVEMLLDRSAPILSKTKN--GLSPLHMATQGDHLNCVQL-- 335
                                                                                                                                                                                                                                      461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              678
          -----ADVDINIPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV 281
                                                                                                                                                                                                         FTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LHVAAHYDNQKVALLLLD-QGASPHAAAKOGYTPLHIAAKKNQMDIATSLLEYG--ADAN 641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FKTSATPTPLNLACLRGDNEVVRGLVGQH-GIDINQRMGSDKMTVLHYAISKGDSFLVQK 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                738 ILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPG 797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ankyrin 3, long splice form - human
N;Alternate names: ankyrin G
C;Species: Homo sapiens (man)
C;Date: 03-Mar-1995 #sequence_revision 03-Mar-1995 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                233 VATLLINRAAAVDFT----ARNDITPLH-VASKRGNANMVKLL-----LDRGAK-IDA
                                                                                                       LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE
                                                                                                                                                                                                                                                                                                           402 YAVKNINADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD
                                                                                                                                                                                                                                                                                                                                                                                                             VNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  520 AKPNI-----KGEDTVA-----KSLLMEDYKGFTPLHFVAGGGSRDTFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----ASPLILOKS-----ASPDA-----ASPDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         619 ARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKPSDLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  506 ASPNAATTSGYTPLHLAAREGHEDVAAFLLDHGASLSITTKKGFTPLHVAAKYGKLEV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VĽVNQĠAHVDAQTKMĠYTPLHVGCHYĠNIKIVNFLLQHSAKVNAKTKNĠYTALHQA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gene: GDB:ANK3
Cross-references: GDB:424503; OMIM:600465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  798 RKEKGVLGIVNKLLDRGADIN 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Status: preliminary:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Accession: A55575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  447
                                                                                                       282
                                                                                                                                                                                                            342
       231
                                                                                                                                                                                                                                                                                                                                                                                                                462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  754
                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                               g
                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                  셤
                                                                                                       δ
                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
```

```
C;Species: Homo sapiens (man)
C;Date: 11-Jan-2000 #sequence_revision 11-Jan-2000 #text_change 09-Jul-2004
C;Accession: T42691
Balbocker, H.; Boecher, M.; Brandt, P.; Mewes, H.W.; Gassenhuber, J.; Wiemann, submitted to the Protein Sequence Database, November 1999
A;Reference number: Z22230
                                                                                                                                                                                                                                                                             230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----MEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLG 590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    187 İKĞKVRLPALHİAARKDDTKSAALLLQNDHNADVQSKMMVNRT.-TESGFTPLHIAAHYG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 651 NAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      184 TSGPVRDIADRIVASKGD-----LSEDQVEEILDIIFMNESEIAEGISNPLH-----
                                                                                                                                                                                                                                                                                                                                                                                                                                               245 NVNVATLLINRGAAVDFT----ARNGITPLH-VASKRGNTNMVKLLLDRGGQIDAKTRD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                275 GANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----GLTPLHCAARSGHDQVVELLLERGAPLLARTKN--GLSPLHMAAQ----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11rk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       374 GVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DFESENTLGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -------KGASPHATAKNGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INORMGSDKN--TVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKI
                                                                                                                                                                                                                                                                                                                                                                                                        ------GEVENDEGDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----------------
                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels 183;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Status: preliminary
A;Molecule type: mENA
A;Residues: 1-791 cAAA-
A;Cess-references: UNIPROT: 09UFA4; EMBL:AL133087
A;Experimental source: adult testis; clone DKFZp434D2328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein DKFZp434D2328.1 - human (fragment)
                                                                                                                                                                                                                  87; Mismatches 262;
                                                                                                                                                        DB 2;
                                                                                                                                                        Score 368.5; DB 2
Pred. No. 9.2e-13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           335 SVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPV-
F;694-726/Domain: ankyrin repeat homology <AN20> F;727-759/Domain: ankyrin repeat homology <AN22> F;760-792/Domain: ankyrin repeat homology <AN22> F;763-825/Domain: ankyrin repeat homology <AN23> F;793-825/Domain: ankyrin repeat homology <AN23>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            553 GAAHSLATKKGFTPLHVAAKYGSLDVAKL----
                                                                                                                                                           8.5%;
                                                                                                                                                                                     25.1%;
                                                                                                                                                                                                                  Matches 178; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Accession: T42691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  434
                                                                                                                                                                                                                                                                                                                                                                                                           231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     536
                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   86
                                                                                                                                                                                                                                                                                                                                       A; Status: preliminary
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mBl: Z26634; MID: g406287; PIDN: CAA81387.1; PID: g4062
B; Cto, E.; Kunimoto, M.; McLaughlin, T.; Bennett, V.
A; Cell Biol. 114, 241-253, 1991
A; Title: Isolation and characterization of CDNAs encoding human brain ankyrins reveal a
A; Reference number: A39643; MUID: 91302466; PMID: 1830053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A/Status: preliminary
A/Molecule type: mRNA
A/Molecule type: mRNA
A/Molecule type: mRNA
A/Molecule type: mRNA
A/Molecule type: mRNA
A/COBBLOOM
A/COBBLOOM
A/COBBLOOM
A/COBBLOOM
B/COBBLOOM
B/COBBLOOM
B/COBBLOOM
B/COBBLOOM
A/COBBLOOM

                         kyrin 2, neuronal long splice form - human
Alternate names: ankyrin B, 440K splice form; ankyrin-B; brain ankyrin; non-erythroid
Contains: ankyrin 2, short form
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Aynolecule type: DNA
A, Residues: 463-474, 'PB', 477-495 <TSE>
A, Molecule type: DNA
A, Residues: 463-474, 'PB', 477-495 <TSE>
A, Crosas-references: GB: M3123; NID: 9178647; PIDN: AAA62828.1; PID: 9178648
B, Croan, W.; Kordeli, E.; Bennett, N. D.
J. Cell Biol. 123, 1463-1473, 1993
A, Title: 440-kb ankyring: structure of the major developmentally regulated domain and shriftle: 440-kb ankyring: structure of the major developmentally regulated domain and shreference number: A49462; MUID: 94075409; PMID: 8253844
A, Accession: A49462
A, Reference number: A9462; MUID: 94075409; PMID: 8253844
A, Residues: 1-3924 <RES>
A, Residues: 1-3924 <RES>
A, Cross-references: EMBL: Z26634; NID: 9406287; PIDN: CAA81387.1; PID: 9406288
A, Genetics: GBS: ANX2
A, Cross-references: GBS: 127607; OMIM: 106410
                                                                                                                        Species: Homo sapiens (man)
Date: 06-Jan-1995 #sequence revision 06-Jan-1995 #text change 09-Jul-2004
Accession: S37431; A39643; B39643; A40334; A49462; S14533; S14569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2-3924/Product: ankyrin 2, long form #status predicted <WAT>
2-1443,3585-3924/Product: ankyrin 2, short form #status predicted <WA2>
63-55/Domain: ankyrin repeat homology <ANO1>
96-128/Domain: ankyrin repeat homology <ANO2>
                                                                                                                                                                                                                                                Data Library, September 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <AN15>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <AN18>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <AN06>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <AN08>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <AN09>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <AN10>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 <AN13>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Superfamily: ankyrin; ankyrin repeat homology
Keywords: alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   129-161/Domain: ankyrin repeat homology 162-190/Domain: ankyrin repeat homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 homology
homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              232-264/Domain: ankyrin repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ankyrin repeat
ankyrin repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               65-297/Domain: ankyrin repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ankyrin repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A,Status: preliminary
A,Status: preliminary
A,Molecule type: mRNA
A,Residues: 1-2077 <OTI>A,Cross-references: GB.X56957
A,Accession: B39643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G.Superfamily: ankyrin; ank
C.Keywords. alternative spl
F.2-3924/Product: ankyrin sep
F.2-1443,3585-3924/Product:
F.2-1443,3585-3924/Product:
F.3-95/Domain: ankyrin rep
F.30-161/Domain: ankyrin rep
F.129-161/Domain: ankyrin r
F.129-223/Domain: ankyrin r
F.232-264/Domain: ankyrin r
F.232-264/Domain: ankyrin r
F.235-294/Domain: ankyrin r
F.341-350/Domain: ankyrin r
F.361-350/Domain: ankyrin r
F.362-561/Domain: ankyrin r
F.562-561/Domain: ankyrin r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ankyrin
ankyrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ankyrin
ankyrin
                                                                                                                                                                                                                                                                                A; Reference number: S37431
                                                                                                                                                                                                                      R;Chan, W.
submitted to the EMBL
                                                                                                                                                                                                                                                                                                                    Accession: S37431
```

ŝ

```
probable ankyrin - syphilis spirochete
C;Species: Treponema pallidum subsp. pallidum (syphilis spirochete)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 14
H71274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 alpha-latrotoxin precursor - black widow spider
Cispecies: Latrodectus mactans tredecimguttatus (black widow spider)
Cispecies: Latrodectus mactans tredecimguttatus (black widow spider)
Cispecies: 12-Feb-1993 #sequence_revision 12-Feb-1993 #text_change 16-Aug-2004
Ciscossion: S11827, JW313
R;Kiyatkin, N.1; Dulubova, I.E.; Chekhovskaya, I.A.; Grishin, E.V.
A;Kiyatkin, N.1; Dulubova, I.E.; Chekhovskaya, I.A.; Grishin, E.V.
A;Reference number: S11527; MUD:91031994; PMID:1977615
A;Accession: S11827
A;Accession: S11827
A;Molecule type: mRNA
A;Residues: 1-1401 <KIY>
                                                                                                                                          31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              458
                                                                                                                                                                                                                                                                                                                                       58 YGANV-NQPNNNGFTPLHFAAASTHG---ALCLELLVNNGADVNIQSKDGKSPLHMTAVH 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----TLMHLVYACDVDPRIVKALGEVENDEGD 273
                                                                                                                                                                                                                                                                                                 LGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDT--ANFANQSPLHIITQK 331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLHAAAAGGNVE--CIKLLQSSGADFHKKDKCGRTPLHYAAANCHFHCIETLVTTGANVN 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LLQSLVDLDIRDEKGRTALDLAAFKGHTECVEALINQGASIFVKDNVTKRTPLHASVING 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : | : | : | : | : | : | 635 ASLLIG--AIDSSIVSCRDDKGRIPLHAAAFADHVECLQLLLRHSAPVNAVDNSGKIALM 692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VQKILAHTGVD----VNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLS 791
                                                                                                                                                                                                                            -----GRFTRSQTLIQNGGEIDCVDKDGNTPLHVAARYGHELLINTLITSGADTAKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          THE THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GIHSMPPLHLAALNAHSDCCRKLLSSGQKYSIVSLFSNEHVL-SAGFE--IDTPDKFGRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----VLAVLNORGADV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --DIGVIKA---LGSAKPNIKGEDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                530 VAKSLL---MEDYKGFTPLHFVAGGGSRDTFRV------VRKNYEK-----C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HDLATIRAALMQDRSGGELVNLGDFESENIL-----GSPNAKFLQHIQSAN----FG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAV-KMLAKSAKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTALHRGIMTGHEECVOMLLE-OEVSILCKDSRGRTPLHYAAARGHATWLSELLOMALSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKNTVLHYAISKGDSFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        578 EDCCFKDNQGYTPLHWACYNGNENCIEVLLEOKCF---RKFIGNPFTPLHCAIINDHGNC
                                                                                                                                          Gaps
                                                                              Query Match
8.0%; Score 345; DB 2; Length 791;
Best Local Similarity 23.0%; Pred. No. 1.7e-12;
Matches 174; Conservative 110; Mismatches 275; Indels 196;
                                                                                                                                                                                                                                                                                                                                                                                                            PDCSVLDIEEFT-SRNL----DFGLVDGDGKNPLHHAVEHLPPVILKGVM-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SQDVNGDTPLHIA------VEGGSMET-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SAIVPGRKEKGVLGIVNKLLDRG-ADINL-DGDHN 824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SVQNNDGVTPMLSAAKYG-----
                                                                                                                                                                                         228 PLHADVDNNPVKGAKNVM--
                       A; Note: DKFZp434D2328.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             519
                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 693
:Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 13
                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
A; Molecule type: protein
A; Residues: 21-33,7 (x', 35-40, x', 43-50; 82-90, 'x', 92-99; 107-113; 114-126; 146-151; 171-178; 1
A; Residues: 21-33,7 (x', 35-40, x', 43-50; 82-90, 'x', 1067-1075; 1080-1084; 1087-1096; 1183-1
B4-792; 881-891; 906-913; 914,1015-1021; 1062-1065, 'x', 1067-1075; 1080-1084; 1087-1096; 1183-1
A; Note: the sequence of the amino terminal peptide has been corrected with tryptic pept
C; Superfamily: ankyrin repeat homology; EGF homology
C; Keywords: neurotoxin; venom
F; 1-20/Domain: propeptide #status predicted <PRO>
F; 21-1401/Product: alpha-latrotoxin #status experimental <MAT>
                                                                                                                                                                                                                                                                                                                        spider venom neurotoxin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QKPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLV 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               390 NDPDYFGNTIAHYAVKNKNADLTLFNM-LKASGADLNVRNVVGRAPIHVASSNGKANAVS 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            592 FESENILGSPN------AKFLQHIQSANF-----GFSPARRGIVSSNHN 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----GRTVFHAAAKSGN-DKIMFGLTFLAKSTELNQPDKKGYTPIHVAADSGNAGIVN 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----QDVNGDTPLHIAVE 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLGD 591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          686 INA-NVVSSPGLLSALHYAILYKHDDVASFLMRSSNVNVNLKALGGITPLHLAVIQGRKQ 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLN 689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 :: :: :: | | :: | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | | : : | : | : : | | : : | : : | | : : | : | : : | | : : | : | : : | | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : : | : : : | : : : | : : | : : : | : : : | : : : | : : : | : : | : : | : : | : : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : | 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LACLRGDNEVVRGLVGQHGIDINQRMGSDKN--TVLHYAISKGDSFLVQKILAHTGVDVN 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGSMETVL-AVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKA-LGSAKPNIKGEDTVA 531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      748 CENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIV 807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
A,Cross-references: EMBL:X55009, NID:g9568, PIDN:CAA38753.1, PID:g9569
A,Note: it is uncertain whether Met-1, Met-8 or Met-18 is the initiator By Volkova, T.M.; Galkina, T.G.; Kudellin, A.B.; Grishin, E.V.
Bioorg. Khim. 17, 437-441, 1991
A,Title: Tryptic fragments structure of the black widow spider venom neu-A,Reference number: JN0313; MUID:91362695; PMID:1888339
A,Note: English title and abstract; article in Russian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
8.0%; Score 344; DB 2; Length 1401;
Best Local Similarity 22.4%; Pred. No. 4.9e-12;
Matches 138; Conservative 97; Mismatches 207; Indels 174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --IRATFDH---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  463 SNPD-SAVGFKEPTKLNY-----DGAN-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANOSP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F;1005-1036/Domain: ankyrin repeat homology <AN21>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F;525-557/Domain: ankyrin repeat homology <AN7>F;862-894/Domain: ankyrin repeat homology <AN3>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  449 GLVSCGIDVNS------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NKLLDRGADINL-DGD 822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | |: |: | |
KYLFDKNANVYIADND
```

```
fruit fly (Drosophila melanogaster)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                     A; Residues: 1-1549 < DUB>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  음 장
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                C; Accession: H71274

R; Fraser, C.M.; Norris, S.J.; Weinstock, G.M.; White, O.; Sutton, G.G.; Dodson, R.; Gwin rson, J.; Khalak, H.; Richardson, D.; Howell, J.K.; Chidambaram, M.; Utterback, T.; McDc they, L.; Weidman, J.; Smith, H.O.; Venter, J.C.
Science 281, 375-388, 1998

A; Title: Complete genome sequence of Treponema pallidum, the syphilis spirochete.
A; Recession: H71274

A; Status: preliminary; nucleic acid sequence not shown; translation not shown
A; Molecule type: DNA
A; Residues: 1-934 < COL>
A; Experimental source: strain Nichols
C; Genefics:
A; Experimental source: strain Nichols
C; Superfamily: syphilis spirochete probable ankyrin; ankyrin repeat homology
F; 281-313/Domain: ankyrin repeat homology < ANN22>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         387 LVLTIDRDHRDLTAYFVSLGADIHAEDMRGETPLTKALARGLETVKIVVTDSNLYKQDVV 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  226 SNPLHADVDNNPVKGA-----KNVM-----TLMHLVYACDVDPRIVKALGEVENDE 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 272 GDLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTD-----FIDTANFANQSP 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP-----DYFGNTIAHYAVKNKNA 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       556 TFRVVRKNYEKCHDLATIRAAL-MODRSG----GELVNLGDFESENILGSPNAKFLQHIQ 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   611 SANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAK 670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SAKPSDINFKTSATPTPLNLACLRGDNEVVRG----LVGQHGIDINQRMGSDKNTVLHYA 726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----DPLLANSDGQTPLHLAVM--ENVPVQTFRLLLAKGYPIDKRDRMGS----SALVLA 823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               727 ISKGDSFLVQXILAHTGVDVNCENNLGQTPLHLAVEGGDPXIVSSLLK--AGAVVNRLDD 784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                824 IKKDRSDLCHELLA-LGADLFIANNVGESPALLVLSKN-----TSILKTLVGFAVNKTDS 877
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | : | || |: | | || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: || |: ||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --KALGSAKPNIKGEDTVAKSLL-MEDYKGFTPLHFVAGGGSRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               336 LDAGASV-AIKDDYGETPLHVAA-----RLGMDRAFVERLVGAGADISERNKKGETP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DLTLFNMLKASGADLNVRNVVGRAPIHVA--SSNGKANAVSGLVSCGIDVNSQDVNGDTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels 166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 7.9%; Score 342; DB 1; Length 934; Best Local Similarity 26.5%; Pred. No. 3.3e-12; Matches 177; Conservative 85; Mismatches 241; Indels 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVI---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --HIITQKPDCSVLDIEEFT----SRNL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGESILHYA 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NGRSVLSSA 793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
```

```
A;Cross-references: UNIPROT:Q24241; EMBL:L35601; NID:g557083; PID:g557084; PIDN:AAC37206
C;Genetics:
A;Cross-references: FlyBase:FBgn0011747
                                                                                                                                                                                                                                                                                                Drosopl
                                                                                                                                                                                                                                                                                                of alpha-spectrin in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               564 YEKCHDL----ATIRAALMQDRSGGELVNLGDFESENILGSPN--AKFLQHIQSANFGF 616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     : | | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NANVNVQSLNGFTPLYMAAQENHDNCCRTLLANGANPSLSTEDGFTPLAVAMQQGHDK-- 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNORGADVSVQNNDGV 499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9/
C;Species: Drosophila melanogaster
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 09-Jul-2004
C;Accession: T13940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ------DGKNPLHHAVEHLPPVILKGVMDHVKNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --GFTPLHFVAGGGSRDTFRVVRKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKPSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKNTVLHYAISKGDSFLVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEFQDLVNDPDYFGNT---IAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VTVDYLTALHVAAHCGHVKVAKLLLDYKANPNARALNGFTPLHIAC------KKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         548 -VLLENGAENNAVTKKGFTPLHLACKYGKONVVQILLQNGASIDFQGKNDVTPLHVATHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                227 NPLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKAL--GEVENDEGDLGANAYNVLDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EGNLPLHHAAKNCTGDKLKLCMEKTKTDF-IDTANPANQSPLHIITQKPDCSVLDIEEFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TPMLSAAKYGDIGVIK-----ALGSAKPNIKGEDTVAKSLLME----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      765 -DPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADINL 819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NPSIVELLKKGSSPNLCARNGQCAIHIAC----KKNYLEIAMQLLQHGADVNI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1549;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                       Ribubreuil, R.R.; Yu, J.

Proc. Natl. Acad. Sci. U.S.A. 91, 10285-10289, 1994
A;Title: Ankyrin and beta-spectrin accumulate independently
A;Reference number: Z17820; MUID:95024098; PMID:7937942
A;Accession: T1340
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7.9%; Score 339.5; DB 2; ilarity 22.9%; Pred. No. 1.1e-11; Conservative 100; Mismatches 249;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KILAHTGVDVNCENNLGQTPLHLAVEGG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SRNLDFGLVDG-------
```

Search completed: February 26, 2005, 18:54:50 Job time : 55 secs